The Builder.

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Congress Comments.

IT seems to be agreed on every hand that the Congress has been a great success. It has been more largely attended than any other; and it is gratifying to find that London, in spite of its out-of-the-way position geographically, can attract so large a number of visitors. It will be many years before we have an International Architectural Congress here again; whenever we have, there are one or two improvements which the experience of this occasion may suggest. One is, that there should be an endeavour to select the chairmen of sectional meetings long before; that they should be invited to study the subjects over which they are to preside and make themselves acquainted in advance, if possible, with the contents of the special papers which will be read; and that chairmen should be selected partly for their knowledge of at least two of the languages to be used at the Congress. It was attempted to provide for this by having an English and a foreign chairman for each meeting; but this does not assist very much if the two chairmen cannot well understand each other. Apart from the language difficulty, chairmen are born, not made; and the faculty to keep a meeting in hand and keep speakers to the point is not a very common one. Several of the meetings resulted in some confusion and misunderstanding from want of decisive control; and in one or two cases, as we shall have to note, the foreign and English sections of a meeting decidedly misunderstood each other's aims, and were led to support conclusions different from what their speeches showed that they intended, through want of a facility on the part of the chair to act as an intermediary. It is the business of a chairman on such occasions to encourage members to speak audibly; to prevent a debate degenerating into a conversation between individuals; and to announce audibly and clearly the names of speakers unknown to the audience: all which points were much neglected at many of the meetings. Secondly, it would be much better policy to limit the number and length of papers to what could really be read within the scheduled time of a meeting. To allow people to write long and elaborate papers which cannot possibly be all read, and then request them at the last moment to compress them into a quarter of an hour in reading, is a very bad system; it is impossible for a man to do himself justice when asked to compress a paper in that way at short notice. The limited time, or the limited number of words, should have been laid down from the first, and the writers of papers required to conform to it; the necessary study of brevity and conciseness in putting things is beneficial rather than otherwise to most writers; and it is far better to have a short paper read as a whole than to have bits cut out of a longer one. And in view of the fact that one irrepressible French member seemed determined to contribute a paper on every subject, we might suggest that it would be a very good rule for future Congresses that no member should contribute more than one paper to the proceedings. We recommend these points to the consideration of the Permanent General Committee.

We have given as full a record as possible of the Congress in two far larger editions of this journal than have ever been issued before in its whole history, and we hope they will be found fairly accurate, in spite of the difficulty of getting up so lengthy a report in so short a time. Some of the visits we have necessarily been obliged to neglect; but these were rather the recreation than the work of the Congress.

In regard to the conclusions arrived at, we notice that the foreign architects are generally pretty much of the opinion that we have always held, that official architects are not likely to be the persons to do justice in an architectural sense to an important public building. Some official architects seem to think this a very unfair conclusion; but we have long been convinced of two things: firstly, that official architects are not generally selected for architectural genius but for other valuable but less artistic qualities; secondly, that even if they had the artistic quality originally, official duty is not calculated to keep it alive. A man cannot be cultivating his artistic powers amid the routine duties of administration: It is not so much a question of the good of the outside architects, as of the good of public architecture itself.

On the subject of reinforced concrete

the remarks of M. Rey and M. Cloquet are well worth attention, especially the criticisms of the latter upon the architectural treatment of reinforced concrete, which, as he rightly urged, can never be the same treatment as that suited for the architectural expression of masonry. A new style is wanted for the reinforced concrete building; a style arising out of the nature of the material itself. But while decidedly supporting this opinion, we neither expect nor wish to see reinforced concrete taking the place of stone in buildings of the highest class; it is suitable only to those of which the main objects are utilitarian and economical.

As we thought from the first, the question of the education of the public in architecture is rather a vague one for a Congress of this kind to take up. It is impossible for any Congress of Architects to organise a system of education of the public, because you have first to get the public, like Mrs. Bond's ducks, to come and be educated; and they will not come. Mr. Jackson's suggestion was after all the most practical: that the best way to educate the public in architecture is to erect good buildings. Those are obvious to all; and people who see much of them may in time come to prefer them to bad ones. There are not too many of them at present; not enough, it is to be feared, to produce the desired effect. So that the real first step towards educating the public is to educate ourselves; partly, as Mr. Jackson suggested, by learning to see that architecture is not archæology. We do not think the process of lecturing to the public will do very much, though we see columns of suggestions to that end. It may have some effect, perhaps, in stimulating public interest in architecture; although as before suggested, there is always the question, will the public come and be lectured? We cannot preach to them in the streets, except, as Mr. Jackson suggests, by means of our architecture.

In regard to the question of the control which the architect should have over other artists, painters and sculptors, contributing to the building, we are glad to find one member, Mr. Ellicot (Baltimore), reminding architects that the art of painting can and does lead to a higher sphere than architecture; a view of the matter which is often forgotten; and that you cannot possibly expect painters and sculptors of genius to act in a position which would reduce them to the level of assistants. But the architect may claim, in the first place, to select the artists who are to work with him. M. Nénot gives a good illustration of this in his story of how he wanted Puvis de Chavannes to paint a fresco in the amphitheatre of the Sorbonne, and was threatened by the Government with Benjamin-Constant instead. Every one who knows the style of the two painters would see at once that if Puvis de Chavannes' style suited the architectural surrounding, Benjamin-Constant's could not, since they are as opposite as the poles. M. Nénot could only say that rather than have Benjamin-Constant he would have a plain frieze, and then he got the artist he wanted. This seems to suggest the key to the situation—viz.: that the architect should have absolute power of selecting the sculptors and painters whom he wishes to work with him. The architect should have a scheme for the decorative treatment of the building, even to the selection of the subjects to be treated in sculpture and painting, but he can hardly require them to submit their designs to his criticism, as sculpture and painting. But if he can choose his own people, he can then discuss his scheme with them in advance, and ask them if they are willing to work it out on the lines he wishes for. If they are not, he has the power of saying "then I am afraid we cannot work together," and of looking for others who will meet his views. But he ought not to have painters or sculptors imposed upon him against his judgment and choice. If he is safeguarded against that, he has the matter practically in his own hands.

In regard to the question of the ownership of architect's drawings, we have succeeded in obtaining an International expression that the drawings made by the architect are rightly his property, and that they are not what the client pays for. Mr. Statham's original resolution was no doubt too much limited to the English position and to the relation of the Institute of British Architects to the subject, to be rightly put before an International Congress; the form in which the resolution was ultimately put was more suitable to the occasion, and perhaps more practically useful, as it recorded the expression of a general principle. But we decline entirely to accept the opinion expressed by one member on behalf of the Institute, that the Council were right in declining to follow up the case of Gibbon *v.* Pease. People who are concerned in defending the Council may say what they please; the fact remains that a most serious blow was struck at the just and right privileges of architects, and that the representative body of the Profession did nothing publicly to defend it, and shirked a contest which they were bound to have entered upon, from a mere fear of being technically worsted by the lawyers; and it is an exceedingly pusillanimous policy. The discussion on the subject was an eminently unsatisfactory one, owing to a confusion of issues; the question of "copyright" proper being constantly introduced, whereas the subject under discussion was the "ownership" of drawings. We may mention that after the close of the meeting M. Poupinel explained that in France the custom is as follows:—After the client has signed the working drawings (to a scale of 2 : 100), if building operations are not proceeded with, then the client pays a fee of about one-third of the 5 per cent.; and is then entitled to retain a tracing or copy of the working drawings. The rights of the architect are so protected, however, that the client is unable to make any use of the drawings, without rendering himself liable to pay the architect his full fee. This is so well known, that it prevented the carrying before the courts of what would otherwise have been an interesting test case. A bronze façade in the Rue Royale, Paris, was in process of being reproduced next door: which the architect of the original happened to observe. He made inquiries as to this infringement of his rights in his own design, and the client (a new owner) paid his fees a second time, rather than risk the tardy and costly process of the law: a story which forcibly illustrates the contrast of the legal position which the architect holds in France, as compared with what the law awards him in England.

The discussion on Saturday morning, on the subject of the statutory qualification of architects, was even more unsatisfactory for a similar reason—that the English and foreign architects were really recommending totally different things, and neither of them understood rightly the others' meaning. The snap vote which was recorded at the close, and which makes it appear that the Congress has formally passed a vote in favour of the statutory qualification of architects, is an entire delusion in so far as it is supposed to represent the opinion of this Congress. It does not do so, firstly because some of the most important opponents of registration had been called away, or allowed themselves to be called away, by professional engagements, while the supporters on the other side took care to remain and record their votes; but the more important consideration which renders this vote of no real significance, is that the foreign members envisaged the subject from their own point of view, and obviously did not really understand what they were voting for. No one who was present who understood both languages equally well could help seeing that the French and the English architects in the discussion were really meaning two different things; that their apparent unanimity was based on ignorance of an essential difference in their aims; and that there was no one who could officially explain this to them. M. Bonnier and Herr Wagner must have voted for the resolution, since the two dissentients were English architects; but it is no less the case that their papers tended in a directly opposite sense. The French regard their "diploma" and the study which it entails, as a pledge for securing good work for the Public; the English Registrationists hope that Registration will give them a better status in the eyes of the Public. The tone of the French and German architects on the subject is a great deal higher than that of the English, and radically different. Look at what M. Bonnier said (we quote the English version): "The diploma which is the consecration of long scholastic studies, preparing the architect for all eventualities, *cannot and must not be obligatory in a free country* *; it is only an indication and, as it has been rightly called, a powerful presumption of artistic and professional capacity." And that represents the whole tone and tendency of M. Bonnier's paper. Look again at Herr Wagner's paper, read on behalf of the Society of Austrian Architects, and at what he says on the relation of art to legal status:—

"On all sides the endeavour of artists to favour the progress of art is strongly prominent. Nay, they are in fact the only promoters of art, since the public, entirely absorbed as it is in the acquirement of riches and in politics, has lost almost every sentiment for art. It can, therefore, be understood that the desire makes itself manifest to protect art, and it is thought that this end will be obtained by giving the title of Architect a legal recognition.

* The italics are ours.

This legal backing, as has been shown before, is not possible. But neither is it necessary at all, because it is not the question of admitting legally recognised architects to the construction of artistic buildings, but that only the very best be produced. If, therefore, the State, the country, or a city, or its administrations, respectively make use of a senate of art, there is in this way created an artistic control from which it can best be hoped that the desired goal will be reached."

It is instructive to contrast these sentences, in which obviously the improvement of architecture and of the attainments of the architect is the main object in the minds of the authors, with the mere trades-unionism and desire to keep at bay those who might divert fees from the pocket of the professional architect. The English agitation looks ignoble enough by comparison; and it is quite certain that if the authors of the sentiments quoted above voted for a resolution for statutory qualification as it is understood by the English agitators on the subject, they cannot have understood what they were voting for. Herr Wagner's reference to a "Senate of Art" at the conclusion of the quotation seems in fact to imply exactly that kind of indirect influence from membership of a recognised body which we have always maintained was the true solution of the question.

The concluding banquet on Saturday night, at the Hotel Cecil, was very largely attended, and the proceedings were as cordial as could be wished for. However architects may differ at "Sectional meetings," when they meet at dinner their unanimity is wonderful.

In speaking of the Congress Exhibition last week we referred to Mr. Forsyth and Mr. Townsend as being credited with the hanging and arrangement of the works exhibited; they were the only names we had heard actually mentioned, but it appears that we have done an involuntary injustice to other willing helpers; the two gentlemen we named having been concerned only in collecting and hanging the illustrations of the middle and late Gothic periods. Mr. Millard and Mr. Wonnacott were responsible for the whole of the work in connexion with the Norman and Early English collection, Mr. J. A. Gotch for the Early Renaissance, and Mr. Mervyn Macartney for the Later Renaissance. We ought also to add that Mr. Ralph Straus has done excellent work as Secretary of the Congress Exhibition Committee, and also in collecting and arranging the exhibition of furniture and silver work.

But we are sure that all who attended the Congress will feel that a special recognition is due to the Secretary of the Institute, Mr. W. J. Locke, who has had most arduous work in the weeks preceding it, in making all the almost endless arrangements necessary and providing against all contingencies; who during the Congress seemed to be everywhere where any one required assistance or information; and who (an important gift in an International Congress) speaks French better than some Frenchmen. It is undoubtedly to the Secretary's ability, energy, and courtesy that the success of the organisation of the Seventh International Congress has been mainly due; while its social success is largely due to the universal courtesy of the President, Mr. Belcher, who has been the central figure round which the *entente cordiale* of foreign architects revolved, and has devoted himself heart and soul to the arduous duties incident to his position. We hope we shall see his services in connexion with this International gathering of architects fittingly recognised by a knighthood.

THE HOME OF PETER PAUL RUBENS.

DURING the course of the Congress, an announcement was made which concerns the general public no less than a single section of workers. The name of Peter Paul Rubens is honoured all the world over; and the project of restoring his house in Antwerp is one that cannot fail to be of general interest. The subject has for years been discussed by a small committee, consisting of M. van Ruyck, of the Musée Plantin; M. Max Rooses, architect to the town of Antwerp; M. Aug. Delbeke, and M. Henri Blomme. They knew that the house of Rubens still existed, and they formed the project of buying it, and fitting it up as a museum, to rank with the Maison Plantin.

With this object in view, the committee collected all the data they could find in drawings and descriptions, etc., and it has been a source of considerable satisfaction to them to recognise, in various pictures by Rubens, backgrounds and details which they now find were taken from his own house. From the data obtained, M. Henri Blomme has been able to evolve a complete project of restoration, and his drawings have been much admired at the Institute. These drawings show evidence of the greatest care and thought, and are carried out with the extreme finish which is found in foreign draughtsmanship. On the Continent, relief is given to geometrical elevations with the aid of sciography: a method of indicating projections, etc., which is less misleading than "pretty" perspectives some times prove.

As regards the main walls, the house of Rubens remains intact, but the decorations are all gone, and the interior (now used as offices) has been quite altered. When Rubens bought it, the house consisted of a street front and one wing in which he lived; he added to the main building, and threw out a new wing to contain the studio, etc. The courtyard thus outlined was further defined by a screen representing a monumental gateway; and through this opening was obtained a vista of garden with a pavilion beyond. The pavilion stands there to-day, though a modern wall disfigures the prospect. The street fronts and the older wing remain as Rubens left them; but the glory of the studio wing has departed.

It was Rubens himself who designed the additions to his house, and we see from M. Blomme's drawings that it was regular "painter's architecture." Rubens was a fervent admirer of the Renaissance, and while in Genoa he collected plans of all the palaces where he was received. These were subsequently published. Rubens entertained hopes of introducing and implanting the "true Italian style" in Flanders; he considered that "we have had enough of this barbarous style which is called Gothic." To this end he incorporated in his new building both the simple severity of the Early Renaissance and the florid profusion of the later period. The street elevation of the studio wing is charmingly simple, so that it does not clash with the remainder of the façade; but in the elevation to the courtyard Rubens laid no restraint on his luxuriant imagination, and the result is a sumptuous medley of statues, sculpture, inscriptions, etc. The internal decorations were carried out with similar lavishness and magnificence. This makes one rather wonder how and where the money will be collected to accomplish restoration on such a scale. It is estimated that the work (together with the purchase of the buildings) will require a sum of 2,000,000 francs, or 80,000*l*.

That the home of Rubens should be made into a museum worthy of his reputation, is a sentiment that all admirers of his work must certainly endorse; and we cordially wish the committee all success in their undertaking. We heartily congratulate M. Henri Blomme on the admirable set of drawings he has produced, and we ought to thank him also for the opportunity he gave us of inspecting them.

NOTES.

The Problem of the Unemployed.

THE interesting discussion last week in the House of Commons on the working of the Unemployed Act was of much importance, even if it was somewhat depressing; for Mr. Burns admitted with the utmost frankness that the several temporary schemes for meeting the want of employment during the winter months had broken down. We now start with the admission and the fact that those who are relieved by emergency and other similar works are in the bulk the ordinary casual labourers who never have any regular employment. The habitual artisan who happens to be out of work does not use this machinery. In other words, an immense amount of public and private money has lately been spent in keeping alive by extraordinary means men who could just as well have been relieved by the ordinary methods of the poor law: It would seem, in fact, that, whilst the capable workman who unhappily has fallen on bad times either gets help from friends or frankly uses the poor law, the means of help which was intended for this man is devoted to the casual labourer or the habitual vagrant. As, however, the Act is still in existence Mr. Burns proposes to allocate a grant from the Treasury to its purposes during the coming winter, to be distributed under the supervision of the Local Government Board. The debate made it clear that under modern conditions there must always be a fringe of unemployed—men of weak physique and low mental power and bad moral habit, who should be dealt with under the regular poor law system, and that the best means to diminish the numbers of this body is by raising the general level of the population—mentally, morally, physically, and socially.

The St. George's Church Light Case.

THE case of Anderson *v.* Francis & Adams, the St. George's Church light case, has been fully reported in our

columns, and calls for little special comment. The sole question involved, as in most light cases since the decision in Colls case, was whether the proposed buildings would so obstruct the light to the church as to cause a nuisance. The alterations brought the third floor a few feet nearer to the church windows, and involved raising the building 10 ft. by the addition of a fourth floor, which, however, was set back 4 ft. 9 in. more than the third floor. The actual obstruction of light from the upper windows at the north-east end of the church only amounted to 8 deg., but these windows, surrounded as the church is by other buildings, were of great importance in lighting the church. The evidence offered as to the diminution of light was rather remarkable, since whilst experiments were being made with a tarpaulin, which represented the proposed new structure, a witness, who was ignorant of the cause, on two occasions commented on the unusual darkness in the building. The Court found that the church was substantially and materially darkened, that the comfort and convenience of those worshipping or ministering there would be seriously prejudiced, and that not enough light would be left for the comfortable use and enjoyment of the church as a church, and the defendants were restrained by injunction from interfering with the lights existing at the commencement of the alterations in the defendants' building.

Highways and Motor Traffic.

FROM town and country alike come complaints against motor vehicles, chiefly in respect of noise, vibration, smell, and dust. In London, people of means who live in expensive districts are asking why their houses should be shaken and their lungs poisoned by motor omnibuses because workmen, clerks, and others want to be conveyed more rapidly to and from work or about their daily business. At present, however, the main thoroughfares of London that have been chosen for residential purposes are simply being applied more extensively than heretofore to the purpose for which they were originally intended. As there is no law to prevent any number of Pickford's vans from lumbering through the public streets, so there is none to exclude motor omnibuses. Therefore, while we cannot avoid sympathising with people who occupy houses in streets which have become motor-'bus routes, it does not seem that any relief can be anticipated, except so far as this may be afforded by compulsory improvement in the design of such vehicles. In the country, people complain to-day chiefly of dust raised by motor-cars, having become fairly acclimatised to the speed of these vehicles. All the pleasure of driving and walking along main country roads is now a thing of the past, and since motorists have begun to find out the byways, the air in country lanes also is periodically clouded with dust. Some authorities, like the Warwickshire County Council, for instance, seem to fancy that they will be able to secure reilef by invoking the aid of the Local Government Board. This is an absolutely futile idea, and the only practical remedy is to be found in dustless road construction, such as has been adopted with conspicuous success in various districts where the problem has been boldly faced by the authorities.

Access to Underground Railways.

THE case of Milner's Safe Company, Ltd., *v.* Great Northern and City Railway Company raised an interesting point. The railway company, under their compulsory powers, had acquired the site of two houses in Finsbury Pavement, and had constructed an underground station under this site. Attached to these houses was a right to the user of a certain private passage which gave access to the rear of these two houses, and also to other premises belonging to the plaintiffs in this action. The railway company had not acquired this passage under their compulsory powers, but they used it as a means of access to their station. Shorn of its many legal technicalities the case appears to have turned upon the point whether the railway company were entitled to this extended user of this passage to the detriment of others having similar rights. The company contended that the railway passengers were their customers, and, therefore, that their user was in accordance with that implied in the grant to them, but the Court decided that the use of the passage as a means of access for passengers to the railway-station was different from the user the right of which attached to the houses, a user for business purposes, and since it interfered with the plaintiffs' ordinary use of the passage the Court granted an injunction.

Making up Added Portions to Streets.

THE Divisional Court in the case of Mayor, etc., of Chorley *v.* Nightingale, have again had to consider this question of the liability of owners and occupiers of property as regards the expenses of making up roads under the Public Health Acts. The action was brought by the plaintiffs to recover expenses incurred in making up part of a lane known as Pilling-lane. This lane was bounded by two hedges, but on the side remote from the defendant's land there was a ditch some 8 ft. wide, which was not available for traffic, but served to carry off the surface water. Of late years a pipe had been laid within the ditch to carry the water, and the ditch was filled in. The lane, that is to say that part of the lane used for traffic, was a highway repairable by the inhabitants at large, and, therefore, not within sect. 150 of the Public Health Act, 1875, for the purposes involved in this case, but the latter part of the section refers to making up roads or streets part of which were repairable by the inhabitants at large, and the planitiffs' contention was that the defendant was liable in respect of this addition to the road. The Court held that this ditch was situated within the space originally dedicated to the public, and not being unclosed or by the side of the highway and that it formed part of it. This finding absolved the defendant from liability, and, therefore, it became unnecessary to decide whether, as the defendant's premises abutted only on that portion of the lane which was unquestionably a highway, he could be rendered liable for making up the added strip on the other side of it, a question involving some doubt. Similar difficulties have been experienced in regard to added portions to new streets under the Metropolis Management Acts, and we commented on some of these cases in our issue March 29, 1902.

The Electrolysis of Water Pipes.

THE Report of the Commission appointed by the German Gas and Water Companies on the effects of leakage electric currents on gas and water pipes which has recently been published, is very instructive. A scientific investigation extending over three years has been carried out by Herr Besig in many towns in Germany, and the data obtained justify some general conclusions. For instance, the amount of the electrolytic corrosion depends largely on the nature of the soil. In Danzig, where the average value of the electric currents in the iron water pipes in the immediate neighbourhood of the tramways was found to be as high as five amperes, corrosion was only beginning to be noticed. The small amount of the damage done was due to the soil being mostly dry sand. The extensive nature of the leakage was shown by the rails themselves being in many places badly corroded. In Erfurt, on the other hand, where the mean value of the leakage electric currents was less, the gas and water mains were badly corroded. Recently the pressure of the water supply was increased, a new reservoir being used. An immediate result was the bursting of the mains in ten places in the "danger zone." There were also marked signs of corrosion in the pipes at all the places where there were bursts. An examination of the water mains in Stuttgart showed that they were badly corroded in the neighbourhood of uninsulated return conductors. It is stated that the replacing of bare insulated conductors in Hamburg effectually stopped all electrolytic troubles. The leakage currents, however, were not all due to the electric tramways. In Freiburg they were strongly in evidence at times when the tramway-power station was not working. In this case they were due to the electric-lighting network. It is proposed to carry out farther experiments in a town which has the usual gas and water systems but where there is no electric system. The Commission is to be congratulated on the thoroughness with which the work is being carried out.

The New Laboratory at Rothamsted.

BY the addition of the James Mason Laboratory, the accommodation of the Lawes Agricultural Institute at Rothamsted has been increased by four rooms, of which three will be devoted to bacteriological investigations. The history of the institution is very much akin to that of numerous technical enterprises in this country. As a nation we have been pioneers in many things, but almost invariably have allowed ourselves to be outpaced by other nations who have followed in our footsteps. Thus, while the Rothamsted station was established in 1843 by private munificence, it still depends very largely upon voluntary donations for the funds necessary for continued extension of the valuable work there conducted. On the other hand, the agricultural laboratories of Germany and the United States, of

which the first were founded ten years and thirty-two years later respectively, receive ready and adequate Government support. In declaring the new laboratory open, Lord Carrington said that the Lawes Institute had the best wishes of the Government, and that if things went well he trusted he might be able to go with a good case to the Chancellor of the Exchequer so that some contribution might be obtained. This is a very non-committal pledge, and is just the sort of thing that Ministers have been saying for the past fifty years, and will probably continue to say for fifty years to come, with regard to scientific research of supreme national importance.

The Economic Design of Columns.

In our "Note" of July 1, 1905, reference was made to the experiments conducted by Professor Lilly at Trinity College, Dublin, upon mild steel tubes with the object of obtaining definite information as to the economic proportions of hollow columns. A paper read by Professor Lilly before the Institution of Civil Engineers of Ireland in March last, and now published in pamphlet form, points out some interesting phenomena which were shown by subsequent experiments to occur in the testing of columns. One of the principal results of the experiments has been to demonstrate the remarkable wave phenomena that occur in connexion with the secondary flexure of a column. In testing very short tubes with flat ends under direct thrust, buckling took place in such a manner as to form a series of waves giving to the specimen an appearance somewhat like that of a spiral spring. In the case of longer tubes buckling took place at one side, a strongly marked wave occurring near the middle of the length and gradually diminishing waves above and below it. These singular phenomena are well illustrated by photographs reproduced in the paper, wherein Professor Lilly gives an analysis of the results obtained from his experiments, and a table of constants, for round-ended and fixed-ended circular columns, to be employed in a modified form of the Rankine-Gordon formula. Experimental work still awaiting attention is to determine the relative resistance of various column sections to secondary flexure, and thus to obtain additional values for the determination of constants to be used in the same formula when applied to other than circular sections.

Reinforced Concrete for Fire-resisting Structures.

The discussion of Captain Sewell's paper read in December last before the American Society of Civil Engineers on "The Economical Design of Reinforced Concrete Floor Systems for Fire-Resisting Structures," has now been brought to a conclusion. It demonstrates that the author has achieved what he modestly terms the main object of his contribution, which was to arouse a greater interest in certain points pertaining to the design of reinforced concrete. While many of the views expressed are not based upon demonstrated facts, the information and opinions contained in this paper and called forth during its discussion fully deserves study, for the reason that most of the essential points and difficulties connected with the design of reinforced concrete floors are thoroughly considered from various standpoints by the leading American experts in this class of construction.

National Collection of Architectural Drawings.

In reference to the collection of drawings at the Congress Exhibition, we may remind our readers that Mr. Spiers has organised a Committee for the purpose of getting together a permanent collection of that kind, to which object Mr. Spiers has generously devoted the money balance of the testimonial recently presented to him. Arrangements have been made whereby the collection will be deposited in the Art Library at South Kensington, and any contributors of drawings will be recognised as donors conjointly with Mr. Spiers's Committee, and will be entitled to the donors' privileges of the Museum. It may be suggested that some of the drawings which formed the Congress collection, and which are very likely of no use to their owners at present, might form valuable additions to Mr. Spiers's permanent collection. Perhaps some of those who lent drawings for the Congress collection will take this into consideration.

THE NATIONAL ART STUDENTS' COMPETITION.

The exhibition of students' works in the National Competition of Art Schools and Classes throughout the country was opened last week, and remains open during August, in the galleries of the Indian Section of Victoria and Albert Museum. The exhibition shows some excellent work as well as some that is not of much interest. In the modelling section gold medals are awarded to two students; to one, Christine Gregory, of Hammersmith School of Art, for a reclining figure of a child, which is graceful and charming, showing a high perception of light and shade; in another class Harold Brownswood, of Hanley School, obtains a similar award for a pottery sundial. In the class of modelling design the students, as usual, show but a very poor idea of architectural forms and accessories. The drawings of architectural enrichments and ornament from the cast are, on the other hand, of a high order of merit; that of Christine Baillee, of Sunderland School of Art, and two other examples by students of the same school being particularly attractive. In the designs for illustrations, prints, etc., there is a lamentable deficiency in lettering—a very important part of some work. The stained-glass is a good collection, fresh and interesting; it is, in general, of Gothic feeling. Miss Ida L. Kay, of Birmingham School of Art, obtains a silver medal for a good piece of work. The award made for designs for tiles and glass, especially the gold-medal design for tiles, is unfortunate; the tendency to the Art Nouveau style of design needs no encouragement. The architectural drawings and designs are very poor and disappointing, with one exception. Fortunately the examiners are Messrs. Belcher, Reginald Blomfield, and Champneys, who explain very definitely in their Report the reason of the failures, and lay down the general principles on which students should work. The exception quoted above refers to the measured drawings of Mr. Robert Atkinson, of Nottingham School of Art, whose work is excellent.

STUDENTS' WORK AT THE ARCHITECTURAL ASSOCIATION SCHOOL.

Not the least of the many interesting events of the International Congress week was the exhibition, at 18, Tufton-street, on Friday last, of the students' work of the Architectural Association's day and evening schools. The interest of the exhibition lay not so much in the good work done, as in the evidence of the system and the thoroughness with which the question of architectural education has at last been tackled. The course of instruction is in two sections; the first consists of the day school; the second of the evening school. Students newly entering the profession direct from school or the universities join the day school, and go through a two-years' course of instruction and lectures; at the end of the two years' training they enter on work in an architect's office during the daytime, and they are encouraged to continue their work at the Architectural Association in the evening school. The day school receives the boy with absolutely no knowledge of drawing or architectural accomplishments, and prepares him with a thoroughness, we shall shortly describe, which fits him to make the best use of the early years which he must necessarily spend in an architect's office. The evening school carried the instruction still further, with a view to balancing the practical work of the office, and developing the taste of the student in the higher branches of his work. At the completion of two years at the evening school a four-years' course of training has been obtained by the student. By passing a test examination in design, which lasts about one week, in conjunction with good work done during his studentship, the student is awarded the certificate of the Board of Architectural Education. This test examination is in progress this week, the subject for design being the entrance to Hyde Park at Marble Arch. During the first term in the day school, the student is set to measure the room in which he works, set it out to scale, and parts of construction, etc., full size, that he may become accustomed to the relationship of plan, section, and elevation, and to the use of his pen and drawing instruments. After setting out a big plan from a diagram, the classic Orders are next drawn out, followed by parts of Gothic work to small and large scale, including full-size details. English Renaissance follows on the Gothic work. Simple designs are worked out in one or other of the historic styles; a Greek Doric Propylaea, a Greek Ionic swimming-bath, a Roman vaulted museum of antiquities, a domed church, a village church, are some of the subjects shown on the walls, the work of students during their first year; thus something of the monumental element of design is instilled into the student before he is full of the practical difficulties ahead of him. Drawings of a cottage or small house are then embarked on, carried out as far as possible as working drawings, and very thorough are the drawings shown. A simple scheme of drainage is worked out to a larger scale in plan and section, the carpentry carefully set out, and joinery details shown full size; the house is also drawn in perspective, and hereafter every design and every measured drawing that is made is shown in a perspective drawing. Vacation work is encouraged, and much good work is done even by the first year's students, the reason being that they have received the instruction necessary to know how to set about it and what to study. Amongst the second year's students the vacation work is naturally more interesting; a good drawing is shown of Chessenden House, Kent; in measuring brickwork of any age it is important to note the size of the bricks used, they vary so much in different parts of the country, and it is seldom that they work out in the convenient dimension of four courses to the foot; another point to notice in Kent and Surrey cottages suggested by the example mentioned is the very slight projection of the corbelling out to the chimney heads, a very small point, but one that makes all the difference to the appearance. Good vacation work is shown by Mr. B. H. Collcutt and Mr. A. N. Peckham. Mr. J. K. Ground's work, measured and drawn on the spot, is particularly promising.

Clever work is shown by second year's students in the day school, notably some expeditious and vigorous drawings of ornament by Mr. Paul Faraday, a design for a house by Mr. Charles Whitby, and a village hall by Mr. W. Scott Moncrieff.

Coming to the third year's work, or that done in the evening school, we find the student encouraged to think out the subjects set for design from the necessities of the case, apart from questions of architectural style. The architectonic idea is insisted upon, and only here and there, as in the instance of the suburban house where the difficulty of roofing a nearly square house of

wide span was not foreseen until too late, is there a lack of grip of the subject as a whole. A feature of the evening school is the study of design against time. A wooden porch, a fountain, a brick garden house, are some of the subjects set, and, the time being limited, the student is encouraged to make up his mind and work out his idea without too much procrastination. With the domestic subjects the requirements of building acts and local authorities are considered; the domestic designs of Mr. F. W. Grant, Mr. J. K. Ground, Mr. A. Walford, and Mr. Bernton Benjamin are particularly good. With public buildings, such as the market hall, the students are addressed regarding the laws of composition and more practical points of design. With fourth year's students the subjects become more monumental and freer from practical restrictions. In the design for the mausoleum a model is made in clay as well as a perspective drawing, the application of the dome being better realised in this way. The designs for the clock tower were made after calculating the weights to be carried by the piers and foundations. Amongst other subjects for design are a public library, a street front in colour, and a big scheme for a museum and art gallery, in which Mr. B. H. Collcutt and Mr. A. Walford distinguished themselves. "Westminster Replanned" is another exercise in monumental planning of a different class, but equally important to the architectural student.

To those of us who look back on early years in an office where they were at liberty to pick up as much knowledge as they could, or do as little work as they liked, the value of a systematic education with the agreeable stimulus of friendly rivalry and companionship seems to be a blessing untold for the coming generation, and promises great things from the architects of the next generation.

THE ASSOCIATION OF MUNICIPAL AND COUNTY ENGINEERS.

A WESTERN Counties district meeting of the members of the Association of Municipal and County Engineers was held at Trowbridge and Devizes on Saturday, July 21. The meeting aroused a good deal of interest among municipal engineers, as it afforded an opportunity for the inspection of the slate filled bacteria beds described by Mr. W. J. Dibdin at the recent annual meeting of the Association.

The members assembled at the Town Hall, Trowbridge, where they were received and welcomed by Mr. Herbert Mundy, Chairman of the District Council.

Mr. J. Patten Barber (Islington), President, occupied the chair, and there were present:—Messrs. J. Lemon (Southampton), J. Pollard (Westminster), J. P. Norrington (London), J. S. Pickering (Cheltenham), G. Bell (Swansea), S. P. Andrews (Faversham), F. T. Clayton (Reigate), A. P. I. Cotterell (Bristol), G. Eaton Shore (Crewe), A. Gladwell (Eton), F. W. Jones (Frome), G. T. Lynam (Burton-on-Trent), and others.

On the proposition of Mr. Nicholson Lailey, Mr. J. S. Pickering, of Cheltenham, was unanimously elected Hon. District Secretary.

Municipal Work in Trowbridge.

Mr. H. G. Nicholson Lailey, M.Inst.C.E., Engineer and Surveyor to the Trowbridge Urban District Council, read a paper on "Municipal Work in Trowbridge." He said Trowbridge had for several centuries been famous for the manufacture of West of England cloth, and was a flourishing centre of the cloth trade in the XVth century. This manufacture was still the principal source of employment and gain for the inhabitants of the town, and cloth with the Trowbridge stamp upon it had always found ready buyers and good prices in the marts of the world. The town was now controlled by an urban district council consisting of twenty-one members. The area of the district was 2,126 acres, and the population at the census of 1901 was 11,526. The council's indebtedness up to March 31, 1906, was 52,730*l.* 11s. 11d., and the general district rate for the year ending March 31, 1907, was 3s. 8d. in the pound for Trowbridge, and 3s. 4d. in the pound for Hilperton and Clarendon. The birth-rate for the year 1905 was 21·7 per 1,000 of the population, and the average for the past ten years 20·7 per 1,000. The death-rates for the same periods were 12·5 and 13·4 per 1,000 of the population. The Trowbridge markets were formerly held in the public streets of the town until 1871, when Mr. William Stancomb, the then lord of the manor, erected at his own expense the present market-house and adjoining cattle market. In the year 1891 the local board purchased from Mr. Stancomb the whole of these premises, including all manorial rights in connexion therewith, for the sum of 6,000*l.*, and had since spent considerable sums in improving and enlarging same. The town hall, which was a gift to the town by the late Sir W. Roger Brown, was built in the English Renaissance style of architecture, apparently of the Jacobean period. The exterior was built of Atworth stone with Corsham stone dressings. The interior contained a large public hall, council-chamber, and other rooms on the first floor, and on the ground floor sessions' court, barristers', registrar's, and committee rooms; also a complete suite of offices for the urban district council's officials. The building was erected at a total cost, including furnishing, of 28,000*l.*, from the designs of Mr. A. S. Goodridge, of Bath, and completed and formally opened by H.R.H. the Duchess of Albany in June, 1889. The Victoria Technical Institute was erected from the designs of Mr. T. Davison, architect, of London, at a cost of 7,800*l.*, in memory of her late Majesty's 1897 Jubilee. The infectious diseases hospital provided accommodation for thirty patients, and comprised five buildings, namely, administrative block, three ward pavilions, and a block containing the laundry, disinfector-chamber, ambulance house, mortuary, etc. The administrative block was two stories in height, but the other buildings were all of one story only. The buildings were carefully planned and arranged on the site with regard to aspect, approach, communication with and between the various blocks and isolation of same, provision being made for all probable future extension. The provision for patients in the several pavilions was thirty beds. The total cost of the whole scheme was:—Land, 500*l.*; buildings, 8,063*l.*; furniture, 650*l.*; architect's fees, quantity surveyor, etc., 670*l.*; total, 9,883l., practically 330*l.* per bed. At the present time there were nearly eight miles of main roads and a little over eight miles of district roads in the town which were repaired by the authority. The whole of the main roads were macadamised. The proportions having most wear, and also where steep gradients occurred, were coated with 2-in. broken Clee Hill stone. Other portions were coated with 2½-in. broken mill grit stone. Some portions in the town had also been coated with tarred limestone. The latter material, where laid, considerably lessened the noise of traffic on the roads, and largely prevented dust; but the author found that it wears somewhat unevenly, probably due to the difficulty of keeping the traffic off same before it had properly set. The total cost paid by the county council for roads and footpaths maintenance for the year ending March 31, 1906, was 2,676*l.*, and the estimated amount required to be paid by them for the present year was 2,726*l.* Various materials had been used for paving the footpaths throughout the town—concrete *in situ*, concrete paving slabs, pennant stone paving slabs, and tar-paving. In most cases where concrete *in situ* pavements were laid the kerb was formed in the pavement itself; in the cases of other pavements pennant stone kerb of various sizes was used. Concrete *in situ* pavement kerb of the same material, and consisting of 2-in. of ¾-in. limestone chippings and cement, gauged three to one, and topped with ½-in. layer of ¼-in. Leicestershire granite chippings and cement, gauged two to one, all laid on a 4-in. broken stone foundation. Average cost 4s. 6d. per super. yard. Pennant stone flagging, 2½ in. thick, laid and jointed on a bed of fine engine ashes or sand, average cost 7s. 6d. per super. yard exclusive of kerbing, which varied in price according to size. A very large quantity of the old pennant stone paving, which had been taken up in various streets, where new paving had been laid, had been found to be of sufficient thickness to stand redressing. This work had been done at a cost of 2s. 6d. per super. yard, and when finished made an excellent material for new pavements; in fact, he found it in many respects superior to new flags. Tar-paving was mostly manufactured and laid by the council's own workmen. The stone used was Somerset limestone, ¾-in. to 1-in. gauge for the bottom layer, and ¼-in. gauge, carefully screened, for the top layer. The stone was heated in a kiln until all moisture was evaporated, and then thoroughly mixed with boiling tar with a small admixture of pitch. The cost, when laid, averaged 2s. 6d. per super. yard. This made a cheap and durable pavement for by-streets and district road footpaths.

The street lighting was at present done by 320 incandescent gas lamps. These lamps were the property of the local gas company, who did the whole of the cleaning, repairs, lighting, and extinguishing for the sum of 2*l.* 17s. 6d. per single burner lamp per annum. The water supply was in the hands of a company, who obtained their first Act of Parliament in 1873. The supply was obtained from a chalk formation, and also from the lower greensand at Upton Scudamore, a point seven miles south of Trowbridge. The water was pumped into reservoirs in the parish of Delton, and thence flowed by gravitation to Trowbridge. A scheme of main drainage was carried out in 1872 from the designs of Messrs. Gotto & Beesley, the system emptying directly into the river Biss. A new main drainage scheme had recently been carried out by the author, at a cost of over 20,000*l.*, which included, in addition to several miles of new main and subsidiary sewers, the reconstruction of a large portion of the system laid down in 1872.

The New Slate Bacteria Beds.

Mr. W. H. Stanley, A.M.Inst.C.E., Engineer, gave a description of the sewage-disposal works. He said the Urban District of Trowbridge comprised an area of 2,126 acres, with a population in 1901 of 11,526. The town was situated on a small stream known as the Biss, which discharged into the river Avon one mile below the Town Bridge. The subsoil was Oxford clay.

The water supply was in the hands of a company, the daily consumption averaging 19·5 gallons per head.

The woollen industry, including wool scouring and dyeing, was the staple trade of the town, its West of England cloth having for two or three centuries enjoyed a world-wide reputation. There were also large breweries and several bacon-curing establishments, where large numbers of pigs were slaughtered. At present a considerable amount of trade effluent discharged into the sewers, but the bulk of that from the woollen mills went into the river. There was no separate system of drainage, and this fact, together with the trade effluents that would have to be dealt with, necessitated much larger disposal works than the mere size of the town would at first indicate.

The town was sewered in 1875, the main outfall sewer discharging into the Biss half a mile below the railway station, but the construction of the disposal works then proposed was left in abeyance. Pressure from various quarters, together with an injunction obtained by a neighbouring landowner, made the question of the pollution of the stream a pressing matter, and in 1900 the author was instructed by the urban council to prepare a scheme for dealing with the sewage. There being no suitable land for irrigation, he recommended that the works should be on bacterial lines, and Mr. Dibdin was called in by the Council to advise and report, especially as to the probable action of the chemicals used in the woollen trade on the proposed process of purification. His report was favourable. Meanwhile, the author made investigations as to the quantities of trade effluents then discharging into the public sewers and stream. The following figures were the estimated quantities of liquid trade refuse discharged from the cloth factories and dye works per diem, assuming that all the mills were working to the full extent of their present machinery, and that the wool scouring, where at present carried on in the river, was done in machines. Wool scouring, 140,000 gallons; wool rinsing, 756,000 gallons; piece washing, 274,000 gallons; dyeing, 62,000 gallons; total, 1,232,000. Of this quantity the estimated amount discharged into the new sewers was 137,805 gallons per day, leaving a net total of 1,094,195 gallons discharged into the river. Innox Oil Works: The

estimated amount of liquid waste was 40,000 gallons per day. Breweries and maltings: The amount of liquid waste refuse at present reaching the river was estimated to be 9,000 gallons per day. This was exclusive of water used for cooling purposes, which would continue to discharge into the river. Gasworks: Occasionally an estimated quantity of 2,000 gallons per day reached the river. From cloth factory and dye works 1,094,195 gallons per day. Innox Oil Works, 40,000 gallons per day; breweries and maltings, 9,000 gallons per day; total, 1,143,195. Gasworks (only occasionally) 2,000 gallons per day. Estimated quantity of liquid trade refuse, included in the above total of 1,143,195 gallons per day, which reached the river through old drains, 240,650 gallons per day. Estimated quantity of clear water discharged into the new sewers that should be returned to river, 80,000 gallons. As a preliminary to the taking in of additional liquid trade refuse into the sewers, the author recommended:—(1) That the Council adopt some such rules as are in operation at Leeds; (2) that the liquid trade refuse from the breweries, maltings, and Innox Oil Works be taken into the sewers; (3) that all waste dye water be taken into the sewers, if so required by the manufacturers. The works were designed to provide for the treatment of 240,000 gallons of sewage per day, multiplied by three, equal to 720,000 gallons, and, in addition, 280,000 gallons of trade effluent, making a total of 1,000,000 gallons to be treated as sewage, and the storm-water bed had a capacity for dealing with 720,000 gallons of storm water. The whole of this had to be pumped; 280,000 gallons per day of trade effluent was an assumed quantity, and, considering a larger amount might have to be dealt with, the author kept the sedimentation tank higher above the contact beds than usual, to allow of converting one or more into sprinkling filters should it be found necessary hereafter. The pumping-station stands on 2 acres of land close to the river Biss. The 21-in. outfall sewer discharged into a screening-chamber, provided with a ½-in. screen having a revolving rake working in same. There were two detritus tanks, from which the sewage was pumped, each 54 ft. by 14 ft. 6 in., having a joint capacity of 100,000 gallons. Over these tanks were the engine-room, 40 ft. by 33 ft., and gas-producer house, 33 ft. by 15 ft. The tanks were constructed of cement covered by 21-in. brick arches, carrying the floor of engine-house, with two sumps for cleaning the tanks. The machinery consisted of three 18½ B.H.P. gas-engines for sewage, one 10 B.H.P. for storm water, and a 1½ B.H.P. for working the air compressor. The pumps were three 5-in. and one 6-in. centrifugal. One of the sewage pumps was a stand-by for storm water. The producer-gas plant, suction type, was in duplicate, with a total capacity of 60 B.H.P.

The contract required each 18½ B.H.P. engine to raise 30,000 gallons per hour through a 12-in. rising main, 312 yds. in length, with a lift of 48 ft., and the 10 B.H.P. 40,000 gallons per hour through a rising main, 12 yds in length, with a lift of 22 ft. The storm-water bed adjoined the engine-house, having an area of 1,375 super. yds., constructed of concrete, with a clay puddle bottom 12 in. in thickness, depth 4 ft., filled in with coarse local clinker. On the upper site, 13 acres, were the rising main and sediment tank. A 12-in. rising main was carried under the river to the upper site, where it discharged into a carrier with an open tank built in three compartments, each 90 ft. by 30 ft. by 10 ft. in depth, with a total capacity of 500,000 gallons, or twenty-four hours' dry-weather flow; the sewage, after travelling the whole length of the three compartments, in all 270 ft., flowed into the main carrier to the primary beds. The tank was built of concrete with blue brick copings, the inlets and outlets being submerged. Provision was made, by means of floating arms, to empty either section through a drain back to the pump wells. The sludge, to be brushed through outlet valves and open channels to a sludge pit, was also drained back to the pumping-station. The beds were constructed of cement-concrete, 1 to 5, walls 18 in. in thickness, coned with cement, bottoms in 6 in. of cement with a fall of 12 in. from inlet to outlet in the primary beds. The secondary beds were under-drained by 6 in. and 4 in. land tiles. The contract provided for all beds being filled with clinker, the total quantity being 12,000 cubic yds.; price 6s. 6d. per yard; but the difficulty of obtaining this large quantity of hard clinker, and the tendency shown by clinker to break down, decided the Council to abandon it for the primary beds, and to seek other materials. The alternative materials that could be obtained locally were ironworks' slag from Westbury, and limestone from Frome. At this time, in the neighbouring town of Devizes, the Town Council, under Mr. Dibden's supervision, were carrying out experiments with waste slate. The Committee visited these works, and were much impressed with what they saw, and the results obtained there. The author was also carrying out a series of experiments on a small scale, using slate, limestone, broken brick, slag, and clinker, and the consulting chemist, Mr. C. J. Waterfall, F.C.S., F.I.C., of Bristol, reported very favourably on slate and limestone, the former giving better and the latter nearly as good results as clinker. It was consequently decided to fill four of the primary beds with Tytherington limestone, as being, in the author's opinion, harder than the Frome stone, and four with slate, laid under Mr. Dibdin's directions as follows:—Single rows of blue vitrified bricks were laid flat on the floor in the direction of the fall, varying from 2 ft. to 2 ft. 9 in. apart; on this the thickest slates, about ¾ in. in thickness, were laid, above the slates were carried up in layers 2 in. apart with slate cubes for support, 10 ft. apart in every direction; the slates were built round a 10-in. wooden cylinder having holes for flushing out the bed when required. Slate beds having a water capacity of 50 per cent. greater than limestone or clinker, the Local Government Board were asked to sanction the primary beds being reduced from eight to six, but declined, on the ground that slate for filling was a new material of which they had had no experience, the result being that there were two spare primary beds. The secondary beds were filled with broken clinker screened to pass a 1-in., and rejected by an ½-in., mesh. The final effluent was collected in carriers for distribution over about 6 acres of land for conveyance direct to the river. The contractor for the general works was Mr. J. Riley, of Cheltenham, and for the gas plant, engines, and pumps, the National Gas Engine Company, Ashton-under-Lyne. Mr. C. S. Cole, A.M.Inst.M.E., carried out the duties of resident engineer.

The members then walked to the sewage-disposal works, where they saw the new slate-filled beds in course of construction. Mounting a partly-filled bed,

Mr. W. J. Dibdin said the principle of the slate bed was very simple. If they imagined that to be an ordinary bacteria bed of coke or clinker, it was obvious that they had one surface—the outer surface—and the interior of the mass was simply waste space. It contained no water, nor could it assist in the bacterial action, because, after the first few weeks, the minute cells in the coke or clinker become choked or filled in with the ordinary matter, and they had one surface—the outer surface. It was very evident that in that way there was an enormous waste of otherwise available space. The interior of the mass could be made to do the work if they could hollow that piece of coke, or clinker, or stone, and thereby get an interior surface, and the extra quantity of water which would be taken up by a bed filled by such hollow spaces would be something equal to double. To overcome that problem was a point he set himself to work upon, and it became perfectly evident that one could not hollow out masses of clinker, or coke, or stone, and the next consideration was whether they could use some hollow material. Naturally, ordinary agricultural drain-pipes presented themselves, but the expense and the difficulty of getting at them for the purposes of cleaning was objectionable, especially the question of expense. The next and obvious conclusion was that the pipe was only a bent plate, thereby they had an interior surface and an exterior surface, and by separating those plates with distances of a suitable size, they had a series of plates one above the other, and as the bacterial action would take place upon any surface, whether coke, clinker, stone, glass, or concrete, it did not matter what the surface was if it was chemically inert, and would support the weight of sludge. Then the deposited matter would settle upon that surface, and the bacteria would grow and feed upon it. This led to the inference that, if they could obtain suitable horizontal surfaces and separate them by suitable distances, they would have a desirable result. They had first to consider as to the utilisation of the interior mass of the material. He found that slate *débris* could be obtained under reasonable conditions. Originally he had thought of slates many years ago, but ordinary slates on the market at 8*l*. or 10*l*. per ton were impossible, but when he found the slate *débris* thrown away was of excellent quality, was suitable, and could be obtained at a mere bagatelle in the matter of price, then he saw that the problem as to material was solved. He had obtained a material which could be separated by suitable distances. At Devizes the beds were constructed of very rough blocks. At first it was not known how they could get blocks at a suitable price, and they had to split them up by hand. The work was necessarily arduous and very costly. But Mr. Owen Jones, of the Oakley Slate Quarries, Blaneau, Festiniog, set to work and devised machinery by which he could split the blocks. The cost of these slates, split as they saw them, and including the necessary number of the blocks, put on the rails, was 10s. per ton. He specially pointed out to the quarry company that there must be a fixed price, because it was no use starting the use of slates for that work, and then finding the price of the material raised against them. As each ton of slates would fill 3 cubic yds., the price at the quarry was 3s. 4d. per yard. To that they must add the carriage, cartage, and cost of laying. The cost of those beds for all charges was 9s. 3d. per cubic yard, that was built into the bed in the way they saw. One cubic yard of slate would take as much sewage as 2 cubic yds. of coke or clinker. As a matter of fact, it started with doing nearly four times as much, but they would allow a little bit, and reckoning it only did twice the work, it was equal to coke beds at 4s. 7½d. per cubic yard, with the further advantage that the slates were indestructible. They would never wear down by the action of the sewage or bacteria. And they found by experiment after eighteen months' working at Devizes that the deposit on the surface of the slates was in such a loose, friable, non-stickable state that it could be washed off simply by a flush of water. For that purpose they would notice in the beds certain places which covered a flushing shaft, which was made by simply putting in a wooden template in position and building the slates up round it. Then that was taken out and there was a flushing shaft. It might be, according to the experience at Devizes, eight or ten years before those beds require to be cleaned out. But whatever the time might be, a hose, with a bent nozzle, could be put down the shaft and the deposit washed off and run on to a special ash or clinker bed on which it could be dried without any nuisance or trouble whatever. Of course there was a certain amount of labour, but it was of such a minimum character that it became a very small matter indeed.

The members were then entertained to luncheon at the George Hotel by the Chairman of the District Council, Mr. H. Mundy. After luncheon the two papers were discussed.

Mr. Read (Gloucester) proposed a vote of thanks to the authors, and to Mr. Dibdin. He said the new departure in the construction of bacteria beds by slate-filling was of particular interest, and he hoped it would prove a success.

Mr. J. Lemon (Southampton) expressed his astonishment that it had been necessary to resewer the town, and said he sympathised with the ratepayers of Trowbridge. He congratulated the town upon carrying out works which were thoroughly up to date.

Mr. Gladwell (Eton) said the progress of the sewage-disposal works would be watched with national interest, and he hoped in the future they would have further papers showing the result of some years' experience of treating sewage on the lines they had seen that day.

Mr. Cotterell (Bristol) remarked that, if they were going to take gas liquor into the sewers, heaven help the engineer who had to

look after the works. Mr. Dibdin had introduced a new departure in bacteria treatment which many of them would be glad to adopt, or get Mr. Dibdin's advice in adopting, so as to secure the better efficiency of their filter beds.

Mr. W. J. Dibdin, in reply, said he had to examine the effect of gas liquor upon sewage in regard to its action upon the bacterial processes going on in the modern sewage works very frequently, and in connexion with a large number of places, and he had found that, if the volume of gas liquor did not exceed 2 or 3 per cent., then it was absolutely without any effect upon the bacterial activity in ordinary bacteria beds. If it went up to 5 per cent. of the total volume, then the quantity was, under some conditions, sufficient to make them careful. It might have a retarding effect in the sense that, although the daily flow might be only 5 per cent. of the total volume of the sewage, they would not control the rate of discharge, so that it did not at any time exceed 5 per cent., and they might have at times 8 or 10 per cent. If that was the case they must have a true septic process, and that was objectionable. The rate of discharge from the gasworks into the main sewer should not exceed 5 per cent., and if they could keep them to that limit then no harm would be done, but don't let them get beyond that. If they keep it to that, and it was well diffused, they need not be frightened of gas liquor. He was one of those who had always advocated the studying of the interests of the trades of a town. If they began to interfere unduly and unnecessarily with the manufacturing interests of a community, they were doing a very serious thing indeed, because their action might have very far-reaching results. Manufactories might do a certain amount of what people consider harm in sewage matters, but they did a considerable amount of good every Saturday when they paid their wages. Therefore he had always advocated the studying of their industries and their interests, and he had always believed that, if manufacturers would work with the authorities so as not to make an undue discharge of large volumes of liquor, and would assist by making the distribution of their waste liquor over a period of time, there was no difficulty in dealing with it at the disposal works. If the manufacturer said: "No, I will dump it all in in an hour," then he was taking up an unreasonable attitude. He said that of manufacturers generally, as well as of gas manufacturers. The other point was as to the cleansing of those slate beds. He was going to throw that at their heads. Mr. Pickering, the other day at their annual meeting, said the cleansing of those beds was an engineering question. He could put the bacteria on the slates and get them to do a good deal of work, and then it was for them to clear the deposit off. Some of them might say what size of hose and what pressure of water was required to do it. After eighteen months' work at Devizes he was anxious to know whether that was going to be a success or not. So they cleared out the bed and exposed the slates, and then it proved to be such a loose, friable material that it flushed off the slates and left them perfectly clear. It was obvious that a simple flushing would clear it off. Then came the question, after they had washed it off the slates, what were they going to do with the residue? They had put it on the ash bed. On the previous afternoon he was walking over it, and his boots were as clean as if he had been walking over that floor. What residue was washed off the slates was put on the porous ashpit, and it would drain and dry without nuisance and without trouble and expense. That was the experience of the work at Devizes, and that was the best answer.

The members then proceeded in brakes to the sewage-disposal works at Devizes, where they inspected the slate-filled beds, which have been in active work for the past eighteen months.

The International Congress of Architects.

In our last issue we gave a full report of the first three days of the proceedings of the seventh International Congress of Architects, concluding with the proceedings on Wednesday night at the Institute of Architects and the Grafton Galleries.

THURSDAY'S PROCEEDINGS.

On Thursday morning meetings were held in both the Grafton Galleries and the rooms of the Royal Institute of British Architects.

Artistic Copyright.

Mr. W. S. Eames (United States) presided at the sitting of the Congress held on Thursday morning at the rooms of the Institute.

Two papers, by M. Pablo Salvat and M. Gaston Trélat, were taken as read, the following being abstracts:—

By M. D. Pablo Salvat:—

1. Architectural property ought to be recognised and enjoy identical rights with those of intellectual property in general.

2. Each country ought to fix, as far as it is concerned, the limit of duration of copyright; but in no case ought this limit to be less than twenty-five years, counting from the death of the author.

3. In no case ought the design—that is to say, the idea expressed in terms of architectural art—to be reproduced without the author's consent.

4. The architectural work ought never to be reproduced either in its whole or in any one of its details, no matter for what constructional purpose, without the author's consent.

5. The architectural work may be reproduced in sculpture, drawing, painting, photography, or engraving, provided the author has not expressly and publicly signified his absolute prohibition.

6. The right of ownership is inherent in artistic work. It is constituted *de facto*, without need of registration or deposition of any kind. For copyright to be guaranteed signature and date should be sufficient.

7. Assignments of copyright should be made in the same form as assignments of personal property at the will of the contracting parties.

8. The author should specify in the assignment the points as to which he reserves copyright.

9. Any contract without restrictions implies an assignment also without restrictions.

10. Assignment without restrictions does not deprive the author of the power to reproduce his own works, but the assignee can, by an express condition, demand the right to oppose it.

By M. Gaston Trélat (Paris).—(The author's summary):—

In conclusion:—I do not believe that there exists an artistic property besides the possession of the objects themselves, which is exactly the case as regards the property of architectural drawings. In the matter of art, in the matter of architectural elaborations, there is no *artistic property*. We have seen that the question was of a nature to interest the question of *morale*, inasmuch as it regulates our personal actions towards others. But the *right* which is connected with other people's actions in relation to ourselves must not interfere in the matter.

In architecture the proportions of a piece of land, the building site, the surroundings, are all elements which must be taken into consideration in making the studies for the composition of the plan. The mind of the artist is haunted by too many equally decisive ideas in the orientation of his work that any other mind could grasp the leading idea of his conception. The arrangements and the co-ordinations are all connected with it. It is a law from which the artist will never be able to free himself under the penalty of turning out bad work, and consequently of injuring his own personality.

Artistic property, as far as I have been able to understand it, does not rest upon a sufficient examination of the question; it could not support a conscientious and logical analysis. The result of it is, therefore, in my opinion, an action without profit and a regrettable loss of time.

M. Georges Harmand (Avocat à la Cour d'Appel, Paris) went through Señor Salvat's propositions, commenting as he proceeded.

With No. 1. he fully agreed. In regard to No. 2, he queried the limit of twenty-five years. Considering that literary copyright in Spain extends over a period of eighty years, why should artistic copyright be given a lower limit? Nos. 3 and 4 he fully endorsed. In regard to No. 5, he said, why demand that this prohibition be explicitly expressed? It should rather be implicitly understood. In regard to No. 6, M. Harmand considers the optional addition of the signature as an excellent suggestion, though he would not make it obligatory. No. 7, he observed, refers to a purely Spanish legal aspect concerning the transfer of property. In regard to No. 8, instead of the author specifying, in the assignment, the points as to which he reserves copyright, M. Harmand suggests that the author reserves his absolute copyright, except in so far as the client has specified the direction (if any) in which he (the client) wishes to acquire a copyright. Clause 8 should reserve to the artist the right of specifying restrictions as to the reproduction of his work. Clause 9 was negatived by M. Harmand, who would maintain the inviolability of copyright, even without explicit mention. In regard to No. 10, M. Harmand approves of the first half of the clause, but considers that the second half contradicts the first.

M. Salvat (Barcelona), the author of the propositions, suggested that it would be as well to lay stress on the inherent difference between the drawing and the executed work. He would give to the drawings themselves every copyright that can be claimed, but he would leave full liberty to reproduce the executed building, whether by photographs, drawings, or engravings.

M. Harmand amplified his preceding remarks, and quoted a regulation which is in force in both France and Italy. In the case of a street, for instance, while an ordinary general sketch is allowed, in which perhaps several houses appear, with no undue preponderance of one over the others; yet it is not allowable to make a careful drawing or a detailed sketch of one single house without the permission of the architect.

He moved the following resolution:—

"This seventh International Congress of Architects assembled at London in 1906, recalling, on the one hand, the resolutions passed during the past twenty-eight years by the International Congress of Architects and the International Congress of Artistic Copyright, as well as by the International Congresses of the Association Littéraire et Artistique Internationale, notably at Madrid in 1904; recalling, on the other hand, the Protocole de Clôture of the Diplomatic Conference held at Paris in 1896, which upholds the principle of complete protection of works of architecture; recalling, finallly, the Spanish law of 1879 and the French law of 1902, both of which expressly protect works of architecture;

This Congress is of opinion:—

1. That architectural designs comprise designs of façades, exterior and interior, together with the plans, sections, and elevations, and they constitute the first manifestation of the architect's idea and the work of architecture.

2. That the building is but a reproduction, on the site, of the architectural drawings.

And this Congress renews the resolution that works of architecture be protected in all legislative enactments and in all international conventions equally with every other kind of artistic work."

Mr. Kersey, in seconding the resolution, said he agreed absolutely with all that was contained in it, but he would like to have a little more clear understanding of exactly what had taken place at the Conventions and what was the nature of the resolution of 1886. He would like to know if the Convention was signed by representative delegates to bind all countries to adhere to the protection of all artistic productions.

M. Harmand said that in 1886 diplomists of the countries met at Berne to consider the protection of literary works, paintings, sculpture, and maps and plans of architects, and there was a meeting again in 1896. The delegates of Belgium, France, Italy, and Spain reported that they had protection for architectural work, and promises were made by Germany and Great Britain. The Conference had not since met, but it was hoped to meet in 1907. Germany had got a project before its Parliament to protect architecture fully, but Great Britain had done nothing so far.

Mr. Kersey said that if they passed the resolution great service would be rendered in strengthening everybody's hands with the English Government. If they were able to show the English Government that we were practically the only civilised country in the world which was standing outside the Convention for the Protection of Artistic Productions they might get something done.

M. Salvat criticised the wording of the resolution, and M. Harmand replied.

The Chairman said he could see nothing in the remarks of M. Salvat contrary to the spirit of M. Harmand's own remarks.

M. Harmand thought that M. Salvat would be able to fully support the resolution.

M. Salvat expressed himself satisfied with the remarks of M. Harmand.

The resolution was then agreed to.

The Architect's Control Over Artists and Craftsmen.

M. R. Böker (Russia) succeeded Mr. Eames in the chair, when the following question was discussed:—To what extent and in what sense should the architect have control over other artists or craftsmen in the completion of a national or public building?

The following are abstracts of the papers contributed:—

Sir William Richmond, K.C.B., R.A.:—

A simple question is asked upon a very complicated subject. Complicated because we live in times when artists come much more rarely into touch than formerly. Cities are bigger, life is less simple, distractions of various kinds are ever hindering any artistic intercourse. Above all, the State does not take much account of art. Education is in all hands, superficially. Hundreds of clever young fellows are taught the rudiments. How few of these gain permanent employment, or even make a living. Yet notwithstanding, the Institute is always broadening its ground; the Royal Academy seeks to be more comprehensive. The Art Workers' Guild has accomplished much, and the "Arts and Crafts" have succeeded in gaining the interest of a section of the public. Against the cold attitude of the Government towards art may be set a growingly democratic bearing of artists to artists. Architecture, sculpture, and painting are getting only too slowly more closely into touch, and the professor of each separate art is gaining knowledge from the specialist. And yet there are great difficulties. The great mother of art, architecture, is still shy of her children. For this there must be a reason. May it not be that though increased liberation from "Styles" finds a less pedantic outlook, still a really modern expression in architecture has not entirely overcome them? The rapidly increasing necessities of modern life, the almost innumerable and new problems which the architect has to solve render him more or less an experimentalist. And exactly, though less forcibly, an analogous uncertainty surrounds the inspiration of the sculptor and painter.

Modern costume does not lend itself to sculpturesque or pictorial art as monumental art, and only monumental design can find fellowship with architecture; so that we are more or less in a dilemma, all of us. It would seem a commonplace to say that a Classic building should be embellished with Classic stories told either in the round in relief or by painting of the same character, and the same applies to Gothic buildings. And yet being done the average even instructed citizen is left cold. He is aware of a certain anachronism; and though he may admire, his admiration is without sympathy, and if he does not state it there is lurking in his mind some such sentence as this: "Is there nothing good enough, picturesque enough, grand enough in modern life to create a style?" This leads one to the conclusion that architecture must make the move; sculpture and painting will follow. The divorce of the three arts has been destructive to the highest art, which contains them all three. It is impossible to deny that the Royal Academy is *per se* an academy of painting; it has fallen to be so. The architectural room there enlists but little of the public attention. Why? The average public is neither interested in nor does it know anything about that noble art which is beyond its power of comprehension, because it appeals to the most abstract of our senses, beauty of line and of proportion. Architecture is an art which appeals last, not first, to the average individual. Painting appeals first, first as portraiture, second as anecdote; that painting which is the highest, which is abstract, and hence in allegiance with architecture, appeals scarcely at all. The same may be said of sculpture, though in a less degree than of painting. Regard for the abstract beauty of form is very rare in England; thus architecture, sculpture, and the higher forms of decorative painting have no market; they are not either of them, as it were, dealers' wares; their value is intrinsic, not fluctuating, and it cannot be grouped in the sale-room: therefore neither architecture, sculpture, nor decorative painting is within the market. So much the better! Doubtless a combination of serious architects, sculptors, and painters would be quite invaluable, a society, say, comprising a small number of each section of the arts, perhaps six architects, six sculptors, and six painters.

The Institute is the very body to create this new departure from specialism and all its narrowing effects.

In my opinion no amount of "papers," either for discussion at a Congress or for stimulating a pleasant chat at one of the evenings at the Institute, will ever lead further than that evening's passing instruction and pleasant pastime. There are many men capable of writing able articles, convincing also for the time being, but which very soon are found in that limbo called forgetfulness. We must get practically into touch; there must be no priority. Our several professions are full of difficulties, which would be appreciated as soon as we could get to work together. The architect can learn much from the painter and sculptor, and *vice versa*. It is "touch" that is needed, not "shyness," and real "touch" can only occur when practice follows precept in the initial stages of a great work. It is of little use for an architect to tell the sculptor or the painter, Here I want a statue, there a relief, here a wall painting, etc. At the very initial the three should work together. There is nothing harder than the experience of an artist who is called to decorate a building with painting or sculpture which is in a sense complete without either. Surely the structure must be designed to receive. A niche is nothing without its statue, a sentry-box is a silly thing without its sentry, just as a framed panel seems to ask for what it is framing, for something precious—marble, mosaic, or colour. Incomplete is the monument to the Duke of Wellington in St. Paul's; it looks like a pedestal without a reason; it fails because it has no culmination. There are plenty of arches, plinths, pedestals, scattered all over London which present the same absence in appearance of any utility. If there is no money forthcoming to complete a scheme why ask us to imagine what all these pedestals, plinths, and arches mean? They mean nothing, they are inadequate and senseless! Surely we can imagine a style of architecture the growth of necessity which shall ask for no adornment save that of beauty of line and dignity of proportion. That would be one thing, perfectly complete and quite comprehensive and entirely satisfactory as far as it went. But when we see forms which are not structural placed for purposes which they do not fulfil are we not puzzled and dissatisfied? We are presented with shams. Now, if the architect, starting his design, says, "I am going to design for sculpture and painting," and calls in the best sculptor and painter to consult with him, his hands will be strengthened: knowing how much money he has to spend, he will be able to portion out the various costs of the various parts of his scheme.

My main contention is that, with a view to closer touch between the architect, sculptor, and painter, a committee, such as I have indicated, might be appointed by the Institute. That committee might in time become an advisory body to the Government and the London County Council, which both need assistance, not only in common-sense but good taste also, in all that applies to art.

By M. H. P. Nénot (Membre de l'Institut de France):—

The study submitted to you touches one of the most delicate points of our art; it has for its subject "The Professional Relations between the Architect and the Painters and Sculptors his Collaborators."

In all the bygone periods of art the same idea has united all artists. Painters, architects, and sculptors had the same idea, and the master of the work was sure to find in his collaborators a decorative interpretation in perfect harmony of feeling with his own composition.

Among the Egyptians the hieratic sculptures form part of the architecture itself, and the finest paintings in the tombs of the Theban kings indicate that from the pictorial decorative point of view as well as from the sculptorial the unity was perfect.

The beautiful monuments of Greece, where sculpture played an important part, sometimes even a predominant part, as in the Erechtheion, show us that the greatest sculptors tried above all to accomplish this desirable union.

At Pompeii, where we find once more the intimate life of the Romans, we see that in their private habitations, as well as in their monumental buildings, the decorative paintings and sculptures, although varied *ad infinitum*, are always in complete harmony with the architecture.

In the Middle Ages the charming Latin basilicas, the splendid Byzantine churches, the beautiful Roman and Gothic cathedrals, in spite of the very great liberty of movement of the sculptors and painters, show clearly that a common idea, a uniform faith, animated all the artists.

During the Renaissance, architects, painters, and sculptors completely changed their æsthetics, and the record of the unity with regard to the three arts belongs to Michelangelo, who, as an architect, was his own collaborator as painter and sculptor.

In the Louis XIII., Louis XIV., Louis XV., Louis XVI., and the Empire styles the architects prefer the curves or the very straight lines, and both painters and sculptors in their works adapt themselves to their conceptions, and are either graceful and simple or rigid and severe, according to the different periods.

This unity of the different schools was fruitful for the artists; each of them, according to his temperament, interpreted the sentiment of art which exercised its influence on the period, and either followed or led its fluctuations.

They ignored the styles and passed, like our great colleague Blondel, from the Louis XIV. to the Louis XV. without being aware of it, simply by following the fashion. Painters, sculptors, and architects were all of the same school, and this school appeared to them far superior to all those of the previous periods; they had even a certain contempt for the said periods, and it must have been a great joy and a great force to be sure of the perfect truth of the esthetic part of their art.

How easy and simple were the professional relations between the architect and his collaborators, the painters and sculptors: they always spoke the same language, and this common thought gave to their movements that beautiful union which is so difficult to obtain in our days.

The earthly paradise of the happy unitarian periods is closed to us. We all wanted to eat the fruit of the tree of science. Critics and archæologists have taught us the history of art and of the different styles, and each of us, according to his predilections, has placed in them his apogee or his decadence.

Without having an idea that art is a language which every generation must alter only a little, and that it is impossible to account for these modifications and to judge them before at least half a century has gone by, we have been asked what style we were creating! We should have answered like

those heroes of a popular drama who, drawing their swords, exclaimed, "We gentlemen of the Middle Ages!" These at least did not hesitate to classify their period.

We have, besides, been told very politely that we were living in complete decline, and then instead of continuing to speak the language we had learned we were required to return to the origin. But there are so many delightful streams and so many charming little rivulets in the stream of art, when we try to advance up its current, that some have found the true source in India, others in Greece, certain others in Italy, and many in the Latin and in Gothic countries and elsewhere. Each artist, having found the true source, took a delicious bath in it; his followers sustained that there was not any clearer water elsewhere; but, as there were many true sources, each group speaking a dead language with which he was little conversant, the artists ceased to understand each other, as of old during the building of the Tower of Babel.

In this confusion some beautiful individualities asserted themselves, but all these schools rendered the task of the architect very difficult when it was the question of decorating a monument.

At the time when the Sorbonne was building a great fresco of 26 metres had been decided upon for the great amphitheatre, to decorate the part at the bottom which supports the cupola.

The success depended on the tone of this fresco. Puvis de Chavannes seemed to be the right man. With him the white stone wall, almost entirely covered over, would continue to bear its cupola. But my friend Benjamin-Constant, appointed for another decoration in the same monument, wished to be appointed to carry out this fresco, and the President of the Republic, M. Grévy, informed the Director of the Fine Arts, M. Kempfen, that he wished very much that he should be given the work.

The position of the architect was painful. To resist the head of the State was a difficult matter, but, on the other hand, with the powerful pallet of Benjamin-Constant the semi-cupola would no longer be supported, and the general harmony would be destroyed.

I declared that if I was forced to accept Benjamin-Constant I should give up the fresco and substitute an architectural motive for it. Then I was allowed to have Puvis de Chavannes.

This should always be the case; instead of the architect having a certain artist forced on him he should be given a great freedom in the choice of his collaborators, and he himself must point out the artists and follow their work, without any other preoccupation than the general harmony of his work; and he should leave to the painters and sculptors, who are responsible for their work, every liberty of form or of colour, provided they do not prejudice that general harmony without which no architectural work can really exist.

By Herr L. B. Müller, architect (Ellers-Düsseldorf) :

The author takes it for granted that in giving the order to the architect in question the decision is based upon his evident capacity. (Success in a competition or constructions specially remarkable for their qualities previously designed by him or carried but after his plans.)

Architects thus discovered will and must possess so much commonsense that they are able to give the necessary instructions to all co-operating artists.

If it is the question that a public or national building, or also some other monument, devised by one architect shall be adorned with statues or pictures the architect shall be the designer of the whole work. It is he who shapes the frame of the picture and gives the subject for it. The other artists are the co-operators. They have to subordinate themselves to his intentions in the dimensions, in the tone and harmony of colours, in order to obtain a desired effect; if they will not they must not assume the task.

If it is the question of a monument in which either the sculptor or the painter (interior monument) gives the tone or expression the architect must subordinate himself to the intentions of the relative artist, and must continue making sketches until he has produced the impression desired by the artist; and if he cannot find it he must withdraw from the task.

If in the erection of public or national buildings a co-operative artist is forced upon the architect, or if, *vice versâ*, in the execution of monuments an architect is imposed upon another artist it is more than likely that their idea will be diametrically opposed.

The stronger mind will prevail, and the work will be a failure.

The watchword in every case must be: The designer of the work shall have the choice and supervision of his co-operators.

But the designer ought not to be possessed of a false sentiment of honour. He ought not to reject an improvement on his design simply because it was not he who hit on the idea.

He should leave to his co-operators, so long as they work with ability on the plan of his design, not only a certain liberty, but also a rightful share in the honour, "mention of his name, and recognition of any eventual improvement."

"By so doing he honours himself." Now, if in what precedes it has been asked and reasons given for the subordination of the co-operating artist then much more shall the mere artisan subordinate himself to the designer.

But, of course, the architect must in these spheres be sufficiently an adept, so as to be able to give the proper decision in the various questions which may turn up to be decided upon.

He shall encourage the artisan to express his opinion about things he believes will contribute to the improvement of the work.

He shall without fear or favour refuse to accept any work done badly or slovenly, and already in the conditions of tender he shall leave no doubt about this.

The architect must direct his fullest attention that everything necessary be carried out in the most beautiful (or most perfect) form.

In this Nature must be his model, in which everything necessary is given in the most beautiful form.

By M. Gaston Trélat (Paris).—(Author's summary and conclusion) :—

In short, I do not hesitate to declare that the architect ought to have control—with no other limit than his aptitudes and possibilities—over all the other artists and all the artisans.

This control could not be too effective, both as to the construction and the arrangement. It is thanks to this control that the departments will be able to respond to the mind that the originator has placed at the service of the programme, together with the social need which it enters into his speciality to supply.

Finally, with regard to the character which the plastic motive is to assume, the architect, as composer, is alone capable of ripening the idea which he has conceived and rendered practicable. It is only necessary to be suited with the multitude of forms which he has realised exactly by his sketches. The latter contain a complete order of ideas which the pencil permits us to understand and to hint at. And from it results a *maëstria*—the word is not too strong—which belongs to the composer architect, and which attaches him more and more to the elaboration of the work he has conceived.

Conclusion.—Consequently it is to the architect that appertains the control of all the artists as well as all the artisans having to collaborate in the erection of monuments destined for the State or the public service.

And this until the absolute completion of the *ensemble* in question.

By Herr Otto Wagner (Imp. and Roy. Superintendent of Works, Professor of the Imp. and Roy. Academy of the Plastic Arts).—(On behalf of the Society of Austrian Architects) :—

In how far and in what sense is the architect to be given absolute authority over other artists or artisans in the completion of a public or international building? As regards this question, the considerations already gone into in this Society's communications on the previous subjects are to be completed by the following :—

The quality and quantity of the architect's knowledge, and certainly in the majority of cases his practical capacity, certainly surpass, as has been shown, the same qualities of his co-operators; they therefore actually force the leading part in the execution of any work upon the architect. This leading *rôle*, if it is to be crowned with success, must be provided with absolute power over all the contributing hands, because a correct artistic and technical harmony of the various parts depends on it, and only the creator of the work—that is to say, the architect—is in a position to make the necessary dispositions.

To this has still to be added that many works and modes of use of the material are invented by the architect himself, and that he must for this reason be the master to decide about every measure in carrying out tests, trials, in making samples, etc. No doubt that about matters which deviate from the broad way of the ordinary methods he will deliberate with the contractors and purveyors, and come to an understanding with them, but the final decision in the matter can only rest with him, because he alone remains responsible to the public for the success or failure of the enterprise.

If the architect has a certain security for the success of his work in the proper selection made by him of the persons to whom the carrying-out of the various parts of the work is to be entrusted, the importance of such a choice shows itself in a much higher degree when it is the question of a co-operating artist, because in this case a new factor, viz., the individuality of the collaborator, is of the most vital importance. Every artistic conception of the co-operators must adapt itself completely to the intentions which the architect wants to realise, so that the work to be created appears as of one cast. Considering that the creator of the work alone can form a correct judgment about this, no doubt he alone is entitled to make the choice of his collaborators. The answer to Question 8 can therefore only be :—

The architect, in the construction of a building, is to be given absolute power over the co-operating craftsmen, but in a special manner over the co-operating artists.

By Señors José Amargós (Salvador Oller y Padrol, P. de Miquelerena, Salvador Valeri).—[On behalf of the Association of Architects of Catalonia] :—

Having been appointed delegates by the Committee of Propaganda of the Association of Architects of Catalonia to the Congress which will be held in the great city of London to set forth the conclusions bearing on Question VIII. : Should the architect be invested with the supreme authority over all the artists and artisans until the complete termination of State monuments or those destined for public service? and having accomplished our task, we have the honour to submit to your superior judgment the result of our mission.

During the discussion of the subject we have been assailed by the fear of not having, perhaps, correctly understood its scope and transcendency, since it is evident, and it is a matter of practice in Spain, that the authority of the architect must be supreme over all the artists and over the workmen until the complete termination of the monuments destined for the State or for the public service.

The supreme authority of the architect is necessary. The undisputed authority he must have over the workmen belonging to the building trades, properly so called, might to some people appear to be doubtful when extended to persons who are exercising one of the fine arts, and who also take part in the execution of monuments of a public character. The pretended emancipation from this authority on the part of certain artists compels us still more to defend our rights, which have not been granted to us as a matter of grace, but which are fully recognised by a law without appeal of the professional capacity and distinction, which rights must prevail as much in order to render more easy, more free, and more correct our facultative mission, as to accomplish the greatest possible development of architectonic activity.

It is not meant, of course, that this justified authority shall be exercised in an arbitrary manner, since in that case all the workmen and artists would be converted into mechanical executors of the work. The authority must be exercised with the greatest discretion by giving clear, precise, and methodical instructions to the artists and

workmen, taking care that these have understood the nature and importance of the work entrusted to them, so that all, by using their best endeavours, shall contribute by their intelligence and good will to the perfect execution of the work.

Powerful reasons of a moral as well as a material order can be alleged in favour of the principle of the absolute authority of the architect, but the limitations prescribed by the Congress prevent us from entering fully into the arguments necessary to completely justify our judgment, which is to make the most formal affirmation.

The architect must have the authority indicated in the question for the following reasons:—

First: Because the architect surveyor must transfer his thought by the proper means, either graphic, written, or verbal, as the case may be, to all the artists and workmen taking part in the execution of the monument, by explaining to them the reasons which determine him to take such and such a resolution; otherwise the monument would be devoid of that harmonious variety in the uniformity which every architectonic work must possess.

In the second place: Because for every edifice is necessary and indispensable an architect to direct the work in order that the building shall be carried out in the proper order and without interruptions; otherwise it would be prejudicial to the monument and to the artists and workmen who contribute to its execution.

In the third place: Because without this authority the architect could not present the necessary estimates of cost and the technical management of the works would be difficult. In fact, there would be created certain obstacles, dualisms, and suspicions, which, besides causing prejudice to the professional moral standard, would be damaging to the realisation of the work itself, because the various parts would not be in harmony with a uniform judgment and study, and because the architect would not be in a position to insist upon the fulfilment of all the contracts of the different trades or arts which necessarily enter into the production of every public or State monument.

In the fourth place: Because it would be subversive of the dignity of the architect, who might be suspected to be lacking in the knowledge he is obliged to possess by his title and by the practical experience he has acquired in his profession, if the interference of another artistic authority were tolerated which would deprive him of the means to act, and would put him into antagonism with the conditions which must be united in an architect, and which are the outcome of the fusion of science and art.

In the fifth place: Because without this absolute authority the architect would remain by this very fact exempt from the responsibility which he enters upon towards the State or the Administration, because of being deprived of the means which such authority gives over those who are placed under him, as the artists and artisans must be—not that this subordination is to be considered as humiliating: rather, on the contrary, it is honourable for the man who is able to fill his place in the various walks of life.

In the sixth place: Because the profession of an architect is certainly the most complex of all the artistic careers and the one which requires the greatest amount of knowledge, which fact by itself alone gives him a superiority over all the other artists and workmen who take part in the works.

One case only can present itself in which the supreme authority of the architect may be doubted upon some points, viz., in the erection of monuments which at first sight appear to be almost totally sculptural, in which exceptional case the architect gives to the sculptor the necessary freedom of action, so that the latter in the development of his idea shall not be hampered by the architectural part.

This in synthesis is our view, and we think that we are not mistaken in saying that the architect fervently wishes that his professional dignity may be protected and raised by furnishing him with that absolute authority in his relations with the other artists and artisans in harmony with the innovations of a state of civilisation which becomes every day more complex and more perfect, and that it shall be recognised by the public authorities in their works, in order that the architect shall never in any way be deprived of it, because he is prevented from it by his mission, in order to preserve his prestige in the face of the whole community and render himself worthy of it.

In the discussion which folowed, Mr. Ellicott (delegate from Baltimore) suggested that the control of the architect over the collaborating artist should be exercised with the utmost consideration. In the case of an artist of transcendent genius, this control might result in irreparable injury to the world in reducing him to the position of mere assistant. Ideal conditions are almost impossible of realisation, and to find that the highest aspirations of an artist of the first rank had been rendered abortive or only partially successful by the artificial restrictions thrown around him by the less sensitve and subtle architect would be a misfortune never to be retrieved. That the art of painting can and does lead to a higher sphere than does architecture cannot seriously be denied. That many noble works of art are partially or entirely lost to the world by the fact that they are unfortunately exhibited is certain, and wherever this is the case, it is obvious that the conditions should be changed. What artist would begin by purchasing a frame for his picture? And yet the architect demands that he shall conform his art to whatever contortions he may see fit to introduce into a given apartment! The architectural features and decoration of an interior should lead up to and not overwhelm the painting on wall or ceiling. Enfin il y a deux moyens. Either confess that painting and sculpture are higher in the sphere of art than is architecture—that there is a point beyond which architecture should not go (for the reason that the same amount of effort expended in painting, sculpture, or tapestry can do a greater service to mankind)—give the artist his way, and only supply such features as will enhance the value of what he will evolve, or concede the point that his work is a mere accessory, which will inevitably tend to enslave and humiliate him, and so deprive the world of what he might have produced under happier conditions.

M. Rozet (Paris) contended that, whatever the calibre of the artist, he could not be given an absolutely free hand, and he must keep his own work in due subordination to the general design.

M. Bonnier (Paris) supported M. Rozet's contention. He pointed out that the education and experience of the painter and the sculptor, as well as his scope in general, differ essentially from that of the architect. A sculptor, as a rule, does not allow himself to be hampered by any considerations of his site, or the position his work will occupy. Similarly, a painting made in a studio often takes no account of the wall surface it is destined to cover, and so does not possess the necessary inherent qualities suitable, and indeed essential, for flat wall decoration. The architect, on the other hand, has carefully considered both painting and sculpture as adjuncts to architecture, and as he has assigned to each a certain function in the design, it is for him to decide whether each form of decoration does take its proper place in due subordination to the general scheme. It is unusual to find either painter or sculptor who possesses a "sense of architecture," *i.e.*, who realises the essential differences which exist between an easel picture and a coloured wall, or a detached group and a tympanum. And it is just the disregard of these inherent qualities which is so apt to mar the unity of a well-considered whole.

M. Poupinel (Paris) spoke in support of M. Bonnier, and laid great stress on the importance of the architect's advice to both painter and sculptor. He further explained the system in vogue in Paris. When a large public building is to be carried out, the design has first to be approved by the Municipal Art Committee. Next, the preliminary sketches and models of both painters and sculptors have to be submitted to the Committee. When completed, the painting and sculpture are again inspected, this time *in situ*, and if any work does not satisfy the Committee it is removed. The Art Committee possessing these powers consists partly of members of the municipality acting on behalf of the ratepayers, and partly of architects, painters, and sculptors of recognised ability, who ensure the best artistic criticism possible.

The Chairman proposed the resolution in Herr Wagner's paper, viz., "The architect in the construction of a building is to be given absolute power over the co-operating craftsmen, but in a special manner over the co-operating artists."

Mr. Howard Ince seconded the resolution, and it was carried.

The meeting then adjourned.

The Education of the Public in Architecture.

On Thursday, at the Grafton Galleries, papers on this subject were read at a meeting under the joint presidency of Sir Aston Webb and Dr. J. Stübben (Berlin).

The following are abstracts of the papers read:—

By Mr. John Belcher, A.R.A., President R.I.B.A., President of the Congress.

The first step, as so often is the case, will be for the public to unlearn much that has been wrongly learnt. The superstitions of antiquity and the "styles" must be exploded. It must be made plain that neither a smattering of archæology nor a superficial study of styles affords a sound basis for a critical judgment in matters of present-day architecture, which must be presented to the eyes and ears of men as a living art, founded upon past achievements, it is true, but instinct with a power and vitality of its own.

Neither is architecture merely a matter of a beautiful exterior; the importance of the "plan" of a building and of sound principles of construction must be pressed home. In other words, architecture is a science as well as an art, a blending of the two in such a way that the practical knowledge of the builder or engineer is interpenetrated by the artistic spirit, and made without prejudice or loss to subserve its ideals.

Instruction of a positive order will range itself under the three heads of Principles, Qualities, and Factors.

The principles of architecture are two, Truth and Beauty.

Truth requires that a building, both in its entirety and in its several parts, should never seem to be other than it really is.

This excludes all pretence of antiquity where no such claim exists.

It requires that a church should look like a church, a town-hall like a town-hall, and a private residence like a private residence.

An external shell of plaster over brick must not present the appearance of blocks of stone, nor a steel structure cased on terra cotta suggest solid masonry.

Good architecture never deceives the eye even for a moment. There must be no false suggestion as to the purpose or construction of the building, nor any hiding under one external feature that which is usually expressed by another.

The principle of truth, however, finds its widest scope in the true use of materials.

Every material has essential characteristics of its own, and therefore a proper place and purpose in building. There is a time and a use for stone and for each kind of stone, for wood and for each kind of wood, and so on.

To defy, neglect, or misuse the natural qualities of materials is not good architecture. These natural qualities will be roughly indicated under the head of Factors.

Beauty is the second great architectural principle. Its elements do not admit of popular exposition, but the public may be trained to recognise its presence by the appeal that it makes to their imagination and emotions. The fact that beauty can be felt, but not (ordinarily) analysed, is of importance in the education of the public, as tending to withdraw their attention from mechanical rules to the spirit that animates and pervades, like a living thing, the highest architecture.

An appreciation of beauty of form is less common than susceptibility to colour effects, and needs training and development.

The qualities that distinguish good work from bad may be classed as follows:—

Strength.—It is not sufficient that a building be, in fact, strong and secure; it must be so; it must satisfy the eye.

The engineer may by exact mathematical calculation know that the conditions of security are amply fulfilled, but the architect has to see to it that the work presents an appearance of strength and solidity. The larger and heavier parts must be below;

every arch must have sufficient abutment or even a tie-rod as well; solids when placed over voids must be strongly supported, and so on.

Methods of support and resistance must be clear and well defined.

Granite in the upper story of a half-timbered house may, as a matter of fact, be quite safe, but it seems to threaten danger; placed below, it satisfies the eye with its impression of solidity.

Vitality.—Evidence of life and growth, most plainly illustrated in Gothic work, where the perpendicular lines rising heavenward and clothed (as it were) with luxuriant ornament suggest the life of a tree or plant.

It is vitality that gives ever fresh combinations and effects from the same primary elements.

Restraint.—The limitation of means to an end, the suppression of all unnecessary parts or details.

Whatever be the nature of the building, there should be purpose, definite purpose, in every feature or ornament.

This may be illustrated under the head of Proportional Divisions (see Factors); but the general principle is one which will be readily grasped by the intelligent layman, to whom it will often suggest a line for thought and inquiry.

Refinement is impossible without restraint, but it includes also purity of form and perfection of material.

Everything must not only be the best of its kind, but so suited to its purpose that Nature will seem to have expressly designed it for that use and place.

The fitness of certain materials and forms for defined purposes and effects is subject-matter for an important chapter in the education of the public.

Repose.—Every really good work is clothed, as it were, in an atmosphere of repose. There is a sense of power, but it is latent power; there is evidence of vitality, but it is restrained vitality.

Effects too pronounced hurt the eye; ornament too profuse wearies both the eye and the emotions. There must be no "loud" or vulgar elements.

Grace.—A dignified seriousness of purpose should be observed in the appearance of all public buildings, but an expression of the graceful courtesies of life should not be lacking. In domestic buildings this element of grace takes a more prominent place, and assumes a higher and more refined form, corresponding to the tender sentiments of home life.

The public interest ought to be readily roused in this direction, and a demand created for a better class of small suburban residence.

Breadth.—The treatment of the subject as a whole in a simple grand manner, the proper massing of the several parts, the subordination of detail to the larger forms of the composition and to the bringing of the whole design into unity.

An attempt may be made by illustration and comparison to explain this somewhat technical term, that the public generally may be led to understand and appreciate this quality of breadth which is so conspicuous in every great architectural work.

Scale.—The right relation of the several parts to one another and to the whole in point of size.

It will be pointed out that there are different scales in architecture as in music, and that the varying effects upon the mind and heart are as powerful and distinct in the one case as in the other.

Also that the scale should be appropriate to the character and purpose of the building. A building of a monumental character or of great public importance should be designed and built on a large scale, and each part and every moulding should be of a proportionate size.

Factors.—In dealing with factors—the means which the architect has to his hand, as it were, for the attainment of his ends—it will be necessary to emphasise the fact that most, if not all, of these factors have their origin in utility, and answer some practical need in the construction or preservation of the building.

To forget this primary purpose and use them as means of artistic embellishment is to sacrifice use and convenience to artistic ideals, and is not true architecture.

The public are quick to recognise the importance of this in respect of window and door openings, floor divisions, chimneys, etc., but are apt to think of columns, pilasters, sills, hood-mouldings, cornices, and perhaps even buttresses as decorative rather than useful, and to suppose that the architect has a free hand in the disposition of them. Education in this matter will include instruction in the primary use of purpose of the common architectural forms, and will give an insight into the difficulty of making these forms serve the ends of use and beauty at one and the same time.

Such an insight—like propounding a problem—will go far to quicken interest.

The subject may be dealt with under the four heads of Proportion, Light and Shade, Solids and Voids, Balance and Symmetry.

Proportion.—Certain proportions are pleasing to the eye, and effects of proportion are obtained by the relative size of different parts.

The various ways in which the constructional parts and features of a building may be utilised to obtain proportional divisions, both horizontal and perpendicular, might be described in detail.

Light and Shade.—The advantage that may be taken of effects of light and shade might also be pointed out.

Solids and Voids.—The importance of a right adjustment of solids and voids, both in respect of size and position, would come next.

How easily a false scale may be set up, and a building made to look insignificant, by broad sheets of plate-glass in the windows.

Balance and Symmetry.—These give a very distinctive character to a building, and aid in setting forth its special purpose. There is or can be rhythm in architecture, as in verse.

Material.—The right use of the various kinds of material furnishes an interesting and useful subject for public instruction.

The general principle having been laid down that every kind of material has its special characteristics, and should be treated accordingly—in other words, that its very best should be got out of it—a brief account of the natural qualities of the chief building materials (stone, wood, metal, bricks, plaster, etc.) would follow.

The following leading thoughts are appended by way of illustration:—

When stone and brick are used in conjunction, the former should be accorded the more honourable parts, e.g., quoins, architraves to doors and windows, sills, cornices, etc.

Granite, even if it could be carved for mouldings, should be used rather for strength and solidity than for ornamental features.

When the beauty of marble or wood is in its figure or colour, it is best exhibited in the form of slabs or panels; if moulded, the forms should be large.

Stone is granular, wood fibrous; each has its appropriate forms and mouldings, suggested by the natural qualities of the material.

Wrought-metal admits of the finer and more delicate forms, metal cast in moulds naturally assuming a more bulbous shape. Both kinds have their appropriate place and effective use.

Well-known examples of wrought-iron and cast-iron gates and railings afford interesting illustrations.

The foregoing summary indicates the main lines along which the education of the public in matters architectural should be developed.

Whether in public lectures, or in articles published in book-form, illustrations should be abundant.

There are signs of a wave of public interest in architecture which, "taken at the flood," may become permanent and lead to great results.

By Mr. T. G. Jackson, R.A.:—

Importance of the public being qualified to know good from bad in architecture, since they are the employers with whom it rests to choose the designs of modern buildings.

Importance of architecture as the only necessary art, and one that cannot be evaded like the others.

Knowledge of architecture part of a liberal education.

Architectural works a main attraction to travellers at home and abroad. Nevertheless very imperfectly understood.

Various methods of educating the public in architecture considered.

The literary method. The vast bibliography of architecture.

Lectures on architecture with illustrations.

Archæological and architectural societies with their meetings and excursions.

Inadequacy of these means to qualify for a sound judgment in dealing with modern architecture because they deal with the subject mainly from the point of view of archæology.

Imagined case of an archæologist called upon to choose among a set of competition designs. His standard of merit will be based on conformity to precedent and ancient example.

Archæology will never teach us to build up a new design sensibly and beautifully.

Proper use of ancient example, that of a tutor rather than a model.

Archæological study of architecture, moreover, only touches one side of it—the outside features of bygone styles, not their inner reasonableness.

All styles in the past have been based on natural and social reasons, and mainly on construction, and their general form and features are such as have been suggested thereby and are expressive of it.

Greater dignity of architecture regarded from this point of view.

So long as we think the essence of a style consists in its outward features we shall fail to understand the true nature of it.

This, however, is the case to-day.

Architecture, whether ancient or modern, must be called upon to explain itself and give a reason for its design, and be judged by that, instead of by mere conformity to precedent.

One effect of the false view of the subject is to teach that architecture is ornament applied to building. A fatal fallacy.

Desirability of reforming the course generally taken by writers and lecturers in the direction above recommended.

Need of awakening public interest in modern work. It rests with architects to show that our art is still alive, and not merely a dead language.

After all, the best means of education is by the production of well-designed buildings. Architects the best teachers, and real work more edifying than books or lectures.

By Mr. Arthur Hill, B.E., M.R.I.A. (Lecturer on Architecture, Queen's College, Cork):—

On the Public Appreciation of Architecture.

For the intelligent appreciation of any art or science some knowledge of that art or science is indispensable. It is not to be expected that the ordinary non-professional observer will take an interest in what he does not understand. To many people a new building represents nothing more than the money it cost, that being the only scale they are capable of applying to the object.

The value of University training for professional purposes does not now need an argument; the principle has been already adopted in some of the modern Universities of this country. But why should the teaching be limited to professional students? Why should not the history of architecture, taught by a professional architect, be included as a branch of general history available to students specialising in history for the B.A. degree?

Several Universities admit lectures on classic art and archæology, but the "mother of all the arts" scarcely receives adequate treatment in lectures of this kind. Why limit the subject to the classic period? Does not architecture, taken as an historical study, reflect the social conditions of a people in one century as well as in another? Taken from its own standpoint as an art, how can an artistic sense be better cultivated or acquired than by a critical review of the best buildings of all time that have survived to the present day?

Lectures on the history of architecture, showing its true basis of evolution, delivered by trained architects, and with the prestige of the "University," would exercise an important and beneficial influence on the public appreciation of our art. For, in addition to the students who would take the University

course, it may safely be assumed that through the medium of the University Extension System, which is bound to follow the example of the parent University, lectures would be given and considerable interest aroused among a number of people in many parts of the country.

There can be no doubt that the criticism of those who have had the necessary training on which to form an opinion would be a valuable aid to the development of good architecture throughout the kingdom and a stimulating influence both to the architect and his client.

This is not the only way, but perhaps one way in which the public may be brought to take more interest in our professional work.

By Professor Othmar v. Leixner (Architect, Custodian of the Imperial and Royal Central Commission) :—

The solution of this question is of the greatest importance for architects as a professional class. The neglect of the public to take an interest in architecture has an unpleasant influence on the position of the modern architect with regard to his social standard, and also in relation to the question of the preservation of fine-art monuments, which at the present time has become a matter of great importance.

I propose to consider this question from the following three points of view :—

1. What is the attitude of the public at the present time towards architecture?

2. Where are the causes of this attitude to be found?

3. What are the means and methods at our disposal to bring about an improvement in this state of affairs?

First Question.—The public of the present time generally shows a very lively interest for the art of painting, that for plastic art is very much less universal, and with regard to architecture the public shows almost no interest at all.

This scale of interestedness is very curious and very interesting to follow up.

If we watch the public in exhibitions of works of art, in the museums, and on travel we shall arrive at the following results :—The interest in modern and in historical paintings is everywhere very great and very genuine. The public is, as a rule, well informed, and is able to explain a great many points : it often forms remarkably independent opinions, and is generally right in appreciating the value of individual productions.

At the fine art exhibitions and in museums the public gathers in groups round the pictures. It often shows a general interest, so that even works without any very striking features are the object of a minute examination. Now and then can also be found a very genuine interest in small plastic objects, whereas those of large dimensions, if they do not pass completely unobserved, are at least the subject of only a quite superficial examination. The judgment of the layman about plastic works of considerable dimensions is as a rule uncertain and timid. Only exhibitions of groups of plastic artists of very great renown, such as Meunier, etc., seem to command a really lively interest. If we go to the museums we shall find that the public remains in hesitating contemplation even in presence of the masterpieces of the plastic art of antiquity, while it examines with a lively interest even the paintings of inferior artists of the quattrocento. The public generally neglects visiting architectural exhibitions, saying, "Oh, we do not understand anything about it; there are nothing but plans" In the rooms set aside for architecture we generally only meet with members of our own profession. It is impossible to speak about an opinion of the public on questions of architecture; for even if it expresses one, it will be found that it is never the expression of an individual, but it will nearly always be found that this opinion has been influenced by other persons. In spite of all the uncertainty of the public with regard to styles of architecture, it always tries, however, to make out the style of any particular building; but the forming of an idea embracing the whole edifice is never attempted. Here and there some details attract some attention, such as doorways, windows, gables, verandahs, etc. Unless his attention be drawn to them the non-initiated will pass without observation even before the most wonderful masterpieces of architecture. In the case of historical buildings the principal interest is often caused by the antiquity of the monument. Buildings in a state of ruin generally make a deeper impression on the masses than buildings which are well preserved. In the case of the former the mind of the observers is greatly influenced by the poetical impressions and by the character which the ruins give to the landscape. With persons who are not architects, but who possess a receptive mind for objects of art, the interest they show will always centre on buildings of a pure style in preference to those in which several epochs are represented. But the layman will never be able to follow the real idea of the composition. As a final result of our meditations we may safely say that the public shows an indifferent, or, at any rate, a very timid, attitude with regard to architecture.

Second Question.—The reasons for this attitude are the following :—

1. The peculiar method of the education at school, especially in the teaching of free-hand drawing in the lower as well as in the higher schools. Until quite recently it was customary to teach drawing in such a manner that the pupil only learned to know the level surface and the colour; the general rule was to give to the pupil a model drawing to copy, and the teaching was limited to two dimensions only. The teaching of drawing objects in perspective was limited to a minimum. By this fact is explained the understanding of the image and the colour, and the uncertainty or incapacity to understand productions of the plastic and architectural arts.

2. The interest in painting is, moreover, favoured by the great periodical exhibitions of objects of art by the museums, by the generally intelligent and good criticism in the newspapers, by the assiduous reading of fine art periodicals, which at the present time can even be found in café restaurants. Mention must also be made of the numerous popular lectures on certain subjects of modern and historic painting. A great influence is also exercised by the abundant and cheap literature about the art of painting (monographs of painters, etc.). If we come to the plastic art the circumstances are already less favourable.

In the exhibitions the plastic art occupies a much more limited space : its literature is much poorer, lectures on the subjects are few, and the criticism of to-day is much less prominent and more timid, and to this must be added the difficulty of understanding the laws of the three dimensions.

When we come to architecture it is almost totally deprived of all the necessary conditions of vitality.

The exhibitions are very few and far between, and public lectures on the subject are almost unknown, and finally there hardly exists any literature at all on this art. The understanding of the three dimensions in architecture is even more indispensable than in the plastic art. The criticism of to-day, even if it sometimes occupies itself with a question of architecture, is not generally lucid, and, as a rule, is not understood, because persons without any knowledge of the science of architecture will never be able to thoroughly understand a question of architecture unless the writer, however clever he may be with his pen, happens to possess the necessary technical knowledge. Finally, as a last reason, it is necessary to mention the opinions so diametrically opposed which exist among the body of architects themselves. By what means could the non-initiated form a somewhat clear judgment if the architects themselves are nearly always at war among themselves about the principles of their art? Neither must we forget to mention the frequently astonishing negligence of Governments in giving the orders of a public building to be constructed. The modern State buildings, which if they were models of good architecture would contribute to educate the taste of the public, are often built by persons who have a very poor knowledge of art.

Third Question.—To bring about an improvement in this state of things Governments and the societies of architects must unite in their best endeavours.

1. The instruction in freehand drawing must from the beginning be given, not by model drawings of level surface, but from the actual bodies.

2. It should be the duty of the State to have public buildings of a certain importance constructed, not by officials, but by artists.

3. The societies of architects must carry out the following programme :—To arrange exhibitions of modern as well as of historic architecture; to give popular lectures on the subject; to take an active part in the literature on architecture, especially on questions of actuality; to gather together all the artistic elements and to settle vital artistic disputes among the members themselves; to publicly exclude all those elements which in our days so frequently put architects of real artistic merit in the shade, and which contribute to corrupt the taste of the public; to give the most efficient assistance possible to writers possessing a technical education who contribute to render architecture popular by summary as well as by more voluminous publications; and finally to bestow particular attention on the cultivation of national art among the local associations, with a view to the preservation of the monuments of the country.

By Mr. Banister F. Fletcher, F.R.I.B.A. : *Architecture and its Place in a General Education.*

Part I.—Architecture.—The works of man, as presented in architecture, from a lithic history, and indicate the social condition of the peoples of bygone days, thus linking it inseparably with history.

The architecture of the Egyptians indicates their mode of life, the powerful priesthood, and belief in a future existence.

Western Asiatic architecture shows the records of a nation of warriors who employed their prisoners to erect elevated platforms upon which were placed palaces and temple observatories for the use of the astrologers.

Grecian architecture indicates the progress of Grecian civilisation, and the existence of temples, theatres, palestræ, and stadia evidences the national love for religion, the drama, philosophy, and outdoor sports.

Grecian architecture and civilisation formed the parent stem of most subsequent European styles.

Roman architecture was a complex type, the use of concrete rendering possible the erection of various kinds of buildings. Roman civilisation was faithfully mirrored in Roman architecture, which became the type of all later European styles. Roman art and literature were at their highest state in the Augustan Age. The decline of the Roman Empire accompanied the decay of art.

A new force—Christianity—brought about a revival of architecture; but this, like the new faith, was slow in developing.

Byzantine architecture, resulting largely from the removal of the capital to Byzantium, has remained as unaltered and unprogressive as the orthodox faith of the Greek Church.

The Romanesque style was one produced by the barbarian tribes who conquered the Roman legions. It was in imitation of the Roman art which they saw around them.

"Gothic" architecture was the result of the formation of the European States, the wealth, learning, and prominence of the monastic orders, and the religious enthusiasm of the time. The Church was the greater avenue for advancement during the Middle Ages.

The cathedrals formed the history books of the time, their beauty being due to the concentration of the artistic energy of the period. The fortified and frowning castles of the nobles testify to the existence of the feudal system.

The Renaissance of the XVth century in Italy was brought about by the discovery of the Greek and Roman MSS., the invention of printing, the discovery of gunpowder, and the mariner's compass. Other events were the capture of Constantinople by the Turks in 1453 and the influx of Greek scholars and artists into Europe.

It became the fashion to talk in Latin, and there was thus a close connexion between the architecture (which was a modified form of the Roman Orders in conjunction with the Byzantine dome on pendentives) and literature.

The invasions of Italy by French kings exercised a great influence by the consequent distribution over Europe of Italian artists and workmen.

In England the Renaissance synchronised with the Reformation, and was greatly influenced by the suppression of the monasteries, endowment of grammar schools, destruction of the old nobility in the Wars of the Roses, and the rise of the merchant class.

The facility of travel and other causes led to the revival of all styles in the XIXth century.

Requirements of our complex civilisation produce modern types of building, and no new systematised style is likely in the future.

Part II.—Its Place in a General Education.—Why is architecture, the petrified history of the past, not generally included in educational schemes?

Its absence is probably due to its technical nature. Its importance as a general subject has not been realised, though it is inseparable from the progressive history of every civilised nation. The subject must be illustrated, for without views and plans it is akin to a play which is read instead of being witnessed on the stage.

The use of photography in conjunction with lantern slides nowadays enables a lecturer to fully illustrate any period of architecture.

The technicalities are simpler than in most scientific subjects. It can easily be invested with human interest and made intelligible to the ordinary student.

Architecture, as the work of human hands, is the result of brain power or thought, and is, therefore, more worthy of inclusion in a general education than a score of subjects which have secured recognition and protection.

A study of architecture enables us to interpret the moral, artistic, and religious character of humanity, and a knowledge of the profoundest characteristics of a nation may be gleaned from a study of its buildings.

It might be expected that our older Universities, such as Oxford and Cambridge, would welcome the study of an art which is so bound up with humanity of all ages, and would provide for a special faculty to advance the general study of architecture, apart from its adoption as a profession.

Its inclusion would be far-reaching, and many benefits would be derived by the public, who would thus be enabled more fully to appreciate the works of art which are to be found in the highways and byways of every land, and which serve as free galleries of art.

Further, the study of architecture is necessary to a complete understanding of history, and gives an added interest to travel.

Bishop Creighton defined architecture as the most democratic of all arts, and pointed out how it is equally for everybody—rich and poor alike. History has been to architecture what steam is to machinery, the grand propelling power; and it may well be described as the printing press of all periods. It calls into action so many branches of mechanical labour which promote national prosperity that it is therefore more entitled to the attention of the general student than any other of the fine arts, a further reason why the general community should acquire a taste for it.

As the art which shelters us from the elements, and with which we come in daily contact—as the art which gives us "home" and enshrines and illuminates the most sacred of our associations—and, lastly, as the mother of all the arts, architecture is certainly worthy to be included in the curriculum of a general education.

By Señors Francisco del Villar y Carmona, Manuel Vega y March, and Eduardo Mercader y Sacanella:—

The want of architectonic education among the masses of the public is everywhere a general fact. Owing to local circumstances and to the various shades of the phenomenon it is generally attributed to different causes; there is in reality, however, but one, and this is the most pitiful ignorance of what constitutes and characterises our art.

The reality and importance of the subject are, of course, evident, as well as the necessity for affording concrete solutions that may modify the actual state of things for the benefit of the public, whose education will increase; of architects, whose status will improve in proportion as their efforts are duly appreciated; of art, by means of which it will ensue the respect of everybody, and will henceforward be free from sacrilegious attacks by the ignorant masses.

Public architectonic education includes two problems: first, to teach people what architecture is; secondly, to direct their taste, so that knowing what art is they may point out the best models. This second problem is only an aspect of the general one of artistic education, which nowadays one tries to solve in all art manifestations.

It is necessary to educate public taste in architecture as we educate it, for instance, in music or in painting. In reference to the first, I must say that though almost everybody knows, instinctively at least, what music is and what painting is, yet very few know what is meant by architecture. Therefore it is necessary to teach it, and before doing so it would be losing one's time to pretend to educate public taste in art.

In order to solve the first problem it is necessary to make the public understand that architecture is all that realises art in a building. There is, or there ought to be, art in the selection of a site; in the distribution of a building; in its situation; in the selecton of materials; in the silhouette of the whole building; in the composition of the façade; in the decoration of the inside; in the distribution of light and shade; in the sanitary arrangements; in comfort; in the cleverness with which inside and outside aspects, diversified or uniform, are brought about; in the whole impression of the building upon its dweller or upon the spectator; in colour; in relief; in proportion; in material security; in a word, in everything which reveals the thought of the artist-architect and the influence of his soul on the work. Art is to be displayed in buildings, gardens, towns, and even in the country. By architecture is meant the construction of a cathedral, of a bridge; the distributions of a mansion, as well as the projecting of a village; the sketching of a road, the aperture of a canal, if there is art in them.

To solve the second problem it is necessary to feed the public imagination with examples, as well as by teaching them what in the present and in the past has been best produced in architecture; and in addition, to keep them free of all exclusive preference of school, giving them to understand that only what is true, sincere, direct, and spontaneous is good in art. What really stands against beauty is untruth; and everything, whether poor or sumptuous, little or great, transitory or permanent, may be artistic if it be sincere. But what is architectonic sincerity? It is the essential quality of beauty, *viz.*, harmony. If there is harmony between the aim and character of a building, between its wants and its aspect, between its style and distribution, between the forms and distances, between the impression of the whole and every one of its inherent parts, between its materials and the use made of them and its appearance, between the moral and material aspects within the order of the purpose which the building is to fulfil; if there is harmony between the immanent logical conception of the building conceived and its corporeal realisation, in the whole and in its parts, beauty then really exists. If there be anything, however so trifling, contrary to this harmony, no beauty can exist. That is the measure which must be made clear to the public, so that they may formulate their judgment with accuracy, and be enabled to give their assent only to what is a good æsthetic theory.

To obtain these ends we recommend the adoption of the following means:—

1. All governments should order to be placed in every primary school photographs or drawings showing the classical works of all kinds of specimens of architecture, with an indication of its style and epoch.

2. The teaching of æsthetics and of the history and theory of the fine arts should be included in the general curriculum of schools.

3. Schools of every kind should be compelled to teach elementary architecture.

4. All countries should promote permanent exhibitions of architectonic works, conveniently classified, represented by drawings or photographs or models, and illustrated with short descriptive explanations.

5. Governments should encourage all kinds of publications for the divulgation of art, instituting for the purpose rewards and bounties. They should also purchase a considerable number of them for distribution among all public libraries, and their price should be such as to place them within reach of persons of small means.

6. Free chairs should be endowed for the divulgation of the history and theory of architecture.

7. It would also be expedient to arrange cheap excursions to the most renowned buildings of all countries, the parties to be presided over by an architect who would lecture on the monuments visited.

8. Money bounties should be awarded for the best collections of buildings or architectonic works exhibited in cinematographs and theatre-sceneries, etc., of which municipalities should afford gratuitous displays.

9. Artistic educational associations should be organised for the propagation everywhere, and with all the means at their disposal, of the teaching of art, more especially of architectonic art.

By Herr Otto Wagner (on behalf of the Society of Austrian Architects):—

The Architectural Education of the Public enters, by the discussions about Question I., already into that field from which a correct answer may be hoped.

If the best model buildings are created by eminent artists, the artistic interest of the public is sure to be awakened, or that already existing will be increased.

It is, however, to be understood that the main condition always holds good, viz., that these models shall be of a very high artistic order; consequently, that they owe their origin to first-rate artists. Artists of the first class will adapt every work for the purpose for which it is destined, in every particular; they will make use of the most convenient material, and of the proper method of construction, in order to produce the best forms of art. Only in this way the desired characteristic and beauty of the work will be created, and only these will be able to satisfy the spectator. No doubt, then, the recognition will flash upon the spectator that the artist expresses his ideas in a language intelligible to all. But if the spectator is able to understand a work of art, his aversion to enter into the study of a work will vanish, and will be replaced by the possibility and the will to judge it.

No doubt in order to create model works of architecture the co-operation of the State is necessary, because it is in the first instance the duty of the State to favour art, which is the gauge of civilisation of mankind.

This State help, in order that it may be efficient, is only possible by the State, the country or a city—since it does not itself possess the necessary artistic intelligence—making use, for the solution of all questions of art, of an appropriate organisation, a senate which should be exclusively composed of participating artists, who would have to watch that only good work be produced.

The answer to Question IV. must therefore be:—

The architectural education of the public can only be rightly influenced by good work, for nothing is so victorious as good work.

By M. Gaston Trélat (Paris).—(Author's summary and conclusion):—

The contemporary phenomenon of democracy characterises the world in which we are called upon to develop our powers. It tends to establish the equilibrium between classes. From it result comprehensions and feelings which from day to day become more general. So much for the nature of the spirit which characterises the public of our time.

Discoveries, which are due to the great initiators of the time, have lighted new paths in the matter of the salubrity of houses. Hence the anxiety with regard to the public health which we see nowadays. No sphere escapes from this anxiety, which seems to be a mark of our time, and which one may describe as a happy beginning.

In the same way, in consequence of an education perhaps unconscious but very real, the plastic arrangement of material has become a cause of impression in all social spheres. At least one meets everywhere people of unquestionable taste, who are sensible of correctness in form, this being always in accordance with the mode of imperfectly seen realisations.

Conclusion.—Architecture is related to many sciences which have a living interest for the public. It is the object of current

applications for these sciences, from which results an immanent cause of interest for the growing mass of the intelligent public.

But, again, the number of the admirers of public beauty increases daily; and as architecture is a considerable element of it, one sees there the evidence of a continually increasing education.

By M. Gaston Anciaux (on behalf of the Central Society of Architecture of Belgium) :—

In the words of Mr. Morris, "Art must be made for the people, and by the people." This latter idea, in the present state of things, seems to be rather utopic.

If, however, we must take care not to reject it as being too idealistic, it must, on the other hand, also be admitted that at the present time, in spite of the enormous progress realised in every field, we are not only very far from art by the people, but also very far from art for the people.

And why is this the case?

Camille Mauclair in a recent article in the *Revue Bleue* tells us in a sarcastic but characteristic way :—

"It is not a question," says Mauclair, "of placing an individual who swears, who spits, who shouts, who does not wash himself, before a masterpiece and thinking one has done one's duty by him. What is wanted is to lead this individual by persuasive teaching to the idea that it is the duty of every reasonable being to become more refined; and it is in this way that he will be rendered capable of understanding and recognising in a beautiful thing the common inheritance of his race. In a word, it is necessary to form the character of the people in order to prepare it for art, and not to expect that in putting it into direct contact with art it will be provided with a character.

A working man may render himself worthy of appreciating a masterpiece, but a masterpiece has not the virtue and has not been created to refine a working man."

And does not what M. Mauclair expresses in such an incisive manner with regard to the people properly so called applied fairly exactly also to our crowds, to the great bulk of the public?

Without wishing to go so far, without wishing to be pessimistic, it must nevertheless be admitted that much needs to be done in this respect.

In fact, it is with strong reason that the question of education with regard to architecture has been put on the order of the day of the present International Congress of Architects.

We therefore are of opinion that long explanations on this point would be superfluous, and we shall at once come to the conclusions which we wish to propose to the Congress on this matter.

Conclusions.—The education of the public in architecture can only be brought about by long, patient, and unceasing effort.

The most practical means to educate the public in matters of architecture are of a very numerous and of the most varied order.

Among these the following seem to us to be more particularly proper to give good results :—

A. For the future :

Within the shortest possible time :

To establish or to develop at the various stages of teaching special lectures adapted to form the taste for architecture; or, better still, above all in the classes of the elementary and secondary schools, to infuse this element into the general matter to be taught without making it the object of a separate course of lessons.

For this purpose, especially to divert to a greater extent the teaching of the history of wars and of politics of the nations towards that of the various stages of civilisation, by characterising them by their stages in architecture, without, however, separating this characteristic element from the most salient features of manners, costumes, and social institutions of each of them.

Similarly to alter the direction in the teaching of geography in the same sense. For this purpose to arrange excursions for the pupils in their native town, in their province, and their country generally, and even to foreign countries if possible. To illustrate with the same view the classical works with vignettes representing not only typical sites but also views of monuments and interiors (by preference of those still existing). To frame the text with ornamental fragments of an architectural and decorative nature by the best masters of the periods under consideration, and to choose only the most characteristic from among them.

To reform the present collection of pictures in schools in a more artistic sense by having recourse to artists of value, and by making use of the modern processes of perfect and cheap reproduction, such as phototyping, chromo-lithography, etc.

To put, however, into the hands of the pupils only elements of the very best kind, and to look to quality rather than to quantity, to the composition rather than to the details.

For the teaching in the most advanced classes, to create professorships specially affected to architectural art and its philosophy.

To have this delicate subject only taught by a particularly able and specially competent *personnel*, as in the adverse case the results can only be disastrous and diametrically opposed to the aim in view.

B. For the present :

To take action in such a way as to obtain the realisation of the following desiderata :

1. The creation of not only central museums of architecture in the capitals, but also provincial ones in the smaller towns of the country.

These museums would either be connected with the museums of painting and sculpture, or rather joined to the museums for the moulding and decorative art of which they would form the head.

These museums would contain, besides the graphic executions, the rough models, the photography and aquarelles which would be more suggestive and more attractive to the public than the technical drawings.

These museums would also contain complete decorations of furnished interiors, where the properly so-called architectural framing largely treated would be accompanied by the explanatory graphic documents.

2. The organisation in these museums of numerous public conferences and attractive temporary exhibitions of architectural works of recent creation or of projects of architecture, the latter in the widest sense of the word.

3. For the public authorities to take care that only constructions, be they important or accessory, of a temporary or a permanent nature shall be erected which are proper to form the taste of the public.

By M. Albert Mayeux :—

Of all the arts, architecture is the one which concerns, or must concern, most mankind, since it is in relation with one of the immediate necessities of life—habitation. Of all the arts architecture is the one which has in the highest degree exercised the genius of man, by the reasoning which is necessary for the conception of projects of an infinite variety for their realisation, and for the research of an æsthetic sensation in most of these projects.

It is also the only art which, so to speak, was created in all its parts by man. Whilst painting and sculpture only contemplate nature in different ways, taken as a model it is transformed by architecture, and new forms are created, and in order to succeed in this even new products are created.

On the other hand, the painters and sculptors have but few or no co-operators; the architect, on the contrary, has a legion of them, from the navvy who makes the excavations to the tiler or slater who covers the roofs, and this even for the simplest object, sometimes only a humble shed.

Architecture is, therefore, an eminently collective concern, which, nevertheless, must interest the people, if it is possible to explain to them the reasons for the interest they must bestow on it.

The works of architecture, from the simplest constructions to the most sumptuous monuments, may be considered as immovable objects which form one of the principal items of public wealth. Even leaving on one side the question of their usefulness, how many monuments, not to say even how many interesting constructions, are sources of wealth for the country? Chartres, Reims, Amiens with their cathedrals, Versailles with its palace, Rouen with its palace of justice, Nancy with its squares, and Carcassonne with its ramparts, bring to the towns to which they belong an undeniable moral as well as a material profit. That is to say that the creations of architecture have a right not only to the interest but also to the respect of everybody.

It is necessary to teach the public, to tell it again and again the value of the existing buildings, in order to prevent the mutilation and the total or partial destruction of the works of architecture, making appeal not only to the sentiments of morality and æsthetics, but to those of social economy as well.

Architecture being of all the arts the one which reflects in the most intimate way the moral state of a period, to such an extent that it has been said that a monument was a book of stone in which history could be read on its indelible pages, it must be understood how much its teaching may be interesting to the public from the point of view of curiosity alone. That is to say that the faces upon which these teachings can be read are numerous and varied, but in order to be able to read it is necessary that they should be brought within the intelligence of the spectators, according to the surroundings and the class of public.

Now the public to whom an architectural education can be given is of two kinds :—(1) The youth frequenting the schools and the soldiers; (2) the independent public. The teaching to the students can naturally be imparted to them in the schools, lyceums, and colleges, and that to the soldiers in the barracks, whilst on the other hand the instruction of the public may take place in the shape of conferences and collective visits.

A complement of instruction exists more or less for everybody in the books and libraries, but this is a means which it must be known how to administer, and which, in any case, is outside the range of a programme of special studies such as we wish to propose to the Congress.

The Teaching of School Children and Teachers.—Already in the elementary school the teacher can open the mind of his young audience by speaking to the children—of course only very shortly—of the general beauties of the buildings which can be seen or visited by all. But if he does not merely limit himself to a burst of admiration in the presence of superior works of art, he will attract attention to some modest building; if in the country, for instance, before a barn, by trying to analyse the work to an extent that his young hearers can understand.

He will say, for instance, first, what is its use, the reasons of its particular shape, the reasons of its walls, of its timber work, of its roofing, of the materials used in the construction, etc., so as to leave in the mind something more than a vague and in consequence fugitive impression. On another occasion he will take his pupils to a schoolhouse, a chapel, etc., preparing them in this manner for a more extensive education in the future.

Some visits to building yards in activity, or into workshops where it will be possible to show the children the wrought materials, will be an excellent complement in the education.

In short, he will instil into them a sort of respect for the collective efforts which are already represented by those modest buildings, which will give them some idea of the gigantic effort which must have been at work in the building of the large church or the big town hall of the district, which has not yet been spoken about, but which they may have had occasion to see already. Needless to say that in the towns the examples will be more numerous, but the method will be the same; from the simple to the more complicated.

For the lyceums and colleges, the teachers of which have had a superior education, the same subject may be developed by making use of engravings, drawings, and photographs of architectonic works, choosing simple rather than complex specimens, in which always the spirit of analysis and of criticism will follow the more or less lively phase of admiration which must necessarily precede in order to attract the attention of the audience.

With regard to the teaching of architecture in the normal schools for teachers, it may be much more developed in the shape of special lectures, in which an erudite and eloquent architect would be better in his place than a professor of science. In fact, in such schools, where teachers are to be educated, it is necessary to say and above all to explain more.

The general features about monuments are no longer sufficient; it is necessary to enter upon the essence of the subject, to speak of

the basis of the programme, of the composition of the forms, of the proportions, of the relations, of the silhouette, and of the decoration; it is necessary to insist on the necessity of particular organs of the work which do not exist in other kinds of buildings, such as buttresses, large resting points, composed pillars, large or reduced bay windows, flat or steeply inclined roofs, etc.

Finally, the historic and archæological part, which is altogether omitted or very limited in the elementary school, at the college, and in the lyceum, becomes very important in the normal schools.

The study of the style, its tendencies, etc., complete as far as possible the teaching in question.

The Teaching of the Soldiers.—It is naturally at the barracks that the instruction of the soldiers can be carried out, but, as it is rare that the garrisons are not placed in a town of some importance, the officers will be able to arrange visits to the monuments and to the factories in the district, under the guidance of men whose professions in civil life are connected with the building trade.

At the barracks those officers whose tastes are in the direction of practical science and art could deliver some lectures on the monuments visited, and if, in the course of the manœuvres, the troops encamp in a region which possesses one or several monuments of some interest, these officers could, in the moments of leisure, explain to their men what they know on the subject, the historic features of the buildings, the nature of their construction, the judicious use of the materials, etc., and finally explain the respect which should be shown not only to a fine piece of work, but to a collective work produced by the united efforts of so many artists, craftsmen, and labourers. Finally, they might insist upon the moral consequence of the love of manual work, the tenacity and the faith of which the men of those trades gave proof who contributed to produce these admired monuments.

The Teaching of the Independent Public.—Once come out of the school or the college, and free from military service, man becomes free of his movements, and if his tastes carry him towards the study of art or archæology he can, without being a specialist, increase his knowledge in architecture. For so doing he must feel some inclination, because nothing obliges him to do so, and if he is encouraged to cultivate it, this must be done cleverly and wisely.

To accomplish this end the best means of to attract the independent public is once more the public lecture made pleasing and attractive.

The lecturer will therefore, as a rule, after having explained his subject, commence by showing by drawings prepared for the purpose, or by photographs, the monuments about which he is going to lecture. If he is able to make good sketches on the blackboard this may be excellent. Finally, if it is possible to have recourse to projections with the oxyhydric light he will do well to use this process, because the magic lantern of our fathers, especially with its modern improvements, exercises always the greatest attraction. To see, being comfortably seated, without even having to go to the trouble of turning one's head or the leaflet of an album, to hear explained at the same time the edifice in question, to make no other effort except that of understanding, is the ideal of the great majority of the public attending at lectures. If the hearer understands, so much the better; if he retains nothing of what he saw and heard he has at least been amused. In fact you no longer amuse him if he stays away from the coming lectures.

By the side of these hearers, who are merely curious, there are sure to be some others who want to learn, and for these the lecturer will do well to complete the general descriptions, showing cause why it is justifiable to admire architectural works exposed to view for the purpose of arousing the enthusiasm of the public, by explanations about the technical part of the arrangements and of the way in which they are constructed. Over and above the beauty of the proportions and of the decorations which alone generally captivate the uninstructed public, he would speak of the structure, of the essential organs, of the practical points which gave origin to the conception of the building, interweaving from time to time, with a view to break the monotony of the demonstration, some anecdote, a fragment of history, a legend, and the like. If he makes the audience laugh or smile, so much the better; if he wants to make his hearers think and reflect too much, he will soon create a relative emptiness in his lecture hall. This kind of lecture requires some wit and tact.

One piece of advice the lecturer might give with advantage to his convinced hearers will be to have recourse to libraries, by pointing out immediately the works bearing on the subject of which he is treating, so that they will be able to fill in the gaps of a description which must of necessity be summary and rapid, because the strained and prolonged attention is a fatigue which the hearer only wants to bear within certain limits. The independent public—that is to say, persons who are not compelled to do anything—is very difficult to satisfy, and the convinced among the hearers are more exacting than is generally thought, for the reason that it is seldom that an immediate aim is the cause of their attendance; it is rather a vague and healthy curiosity which induces them to attend at lectures.

To instruct and at the same time to entertain, even for such a serious subject as architecture, such is, in our opinion, the line of conduct to be followed before an audience of independent listeners.

It is impossible here to draw a positive programme of instruction, the professors and lecturers being of different temperaments and aptitudes; it is only possible to point out a general line on which to proceed.

Collective visits to monuments and even to towns on the road of excursions at reduced prices, and all the pleasantness connected with similar excursions in company, are also to be enumerated among the best means of teaching architecture, because the sight on the spot conveys more to the mind than the best of photographs, and with a good lecturer cicerone the result, which, in short, is to succeed in developing interest and respect for the monuments and the necessity of their preservation, will then be completely obtained.

The question put by the Congress which we have answered in the foregoing seems to be of primordial importance, and we therefore utter the wish that societies similar to ours should study the elaboration of *Standard Manuals* for the use of lectures.

By M. Jean Gilson, architect, Brussels, Professor of Drawing at Boitsfort:—

"Art comes from man and is intended for man. It is the flame of a spirit, its radiance; it cannot fail to affect first of all the being from which it emanates, and afterwards, from one to another, some other beings," said M. Sertillanges.

It is the same with architecture, the queen mother of all the arts; destined, above all, to strike and to captivate the attention of the public. To attain this highly desirable end, which ought to be the object of a noble emulation, always on the alert, it would be necessary, to start with, to try to call forth gradually among the general public the beginnings of the æsthetic sentiment, which in a great number exists in a latent state.

It is therefore necessary that those who are convinced, the enthusiasts who possess the cult, and consequently the enthusiasm, for art, shall fight, without respite and without weakness, against the slow and growing invasion of the domain of inspiration by pedantry which pretends to domineer and to reduce to mathematical dryness the creating genius.

Thus it happens that too frequently the mission to initiate into that immaterial thing called "art" is intrusted to pedagogues, to teachers, while the professional practitioners who have made of æsthetics and of their multiple applications the study and the constant practice of their existence are given the cold shoulder.

It would therefore be greatly desirable that only persons initiated into the sublime and imperishable beauties of art, special professors who have shown special capacity and made special studies, should be intrusted with giving to school children as well as to young men a good and healthy education of their visual organ either by the daily environments of the educative centre, or by rational visits to museums, by excursions, by illustrations, books, etc.

For it is desirable to try, from early childhood, to move the hearts which gradually and naturally will feel themselves attracted in this manner towards the works of art.

Art and history are in relation with each other, and art is the man.

In every epoch, in the creations produced by genius, one can see manifest itself for posterity all that which characterised the man-creator; his thoughts, his feelings, the moral and social life, in a word, the various degrees of civilisation at work.

Consequently it is necessary that our creations should speak with eloquence to the attention of the passer-by or to the visitor, that they should be healthily conceived, and that they should represent clearly, by characterising it, the idea of their author. It is important that these creations should be in direct relation, not only to the surroundings in which they are placed, but also to the customs which have inspired their creation; it is necessary, moreover, that all the decorative arts should move in harmony with architecture, so as to give the impression that they were all one and the same conception.

Let us likewise avoid the mistakes and exaggerations of the modern at any cost! Let us carefully avoid trying to be innovators moved by the unwholesome desire to astonish, to stupefy the public. Let us prove to this public that we endeavour to initiate it into the imposing splendours of the beautiful, to all the importance of arduous work, to the never-ceasing study which our art requires.

Let us make efforts to revive again the corporative spirit from which came to us those admirable and sublime creators; artisans, ignorant of the rules of pedagogy, even almost illiterate, which did not, however, prevent them from producing immortal pieces of workmanship, pure masterpieces of architecture, of tapestry, of ironfoundry, of joiner's work, etc., privileged practical workers with an immortal genius, to whom we are indebted for our jewels of architecture as well as for our jewels of the decorative art, the one forming the pride of our ancient cities, the others the wealth and the value of our museums.

Being thus animated only by the care for the vital interest, for the future and the dignity of our profession, let us unite our efforts so that we may succeed in the creation of the diploma, which would be granted by a jury composed of master architects of recognised talent and merit.

This essential measure of safeguard would keep away the ignorant and incompetent who in our day give themselves the name of "architects," abusing this title, and, in fact, creating great prejudice to the prestige and good reputation of the profession!

To obtain this desirable end the Press might be a powerful auxiliary. If the Press would second our efforts, what a glorious educative part it would play. It could interest and instruct the public by publishing judiciously written articles, commenting upon and bringing before its readers the qualities and merits of the works which are really worthy of such name.

Let us declare it; it would be highly desirable to see the Press bestow on the architects a little of that interest which it lavishes upon painters, sculptors, musicians, and writers. In the same way as the Muses are sisters, are not the arts brothers? It is by reason of this fraternity that I make appeal to those who wield that marvellous instrument of publicity—the pen.

In conclusion I would say that the vital interest of the country, our dignity as disciples of art as well as the defence of our professional interests, oblige us to rally ourselves incessantly, courageously, without relaxing, into a fraternal union against the fatal tendencies which in the end would render it impossible for architecture, that grand book of tradition, to add marvellous pages to the glorious annals of Belgian art.

Mr. Albert Kelsey (Philadelphia), in opening the discussion, said he had listened with great interest to the papers that had been read. There had been a great interest developed in architectural matters among the people of the United States, due not so much to the points that had been referred to by the readers of the papers as to the great object lessons that had sprung up, as it were, in a night in the form of their exhibitions. There was no time for him to explain why it was thought expedient to make those buildings more or less archæological, but it had had a tremendous influence, and had done a great deal more than all the

reading and all the teaching in their various institutions to awaken an interest in architecture. The Dewey Arch, for instance, which was a work of love, had created a tremendous furore throughout the entire country, and for days and days there were always dozens of people photographing it. The T-Square Club delegate to the Brussels International Congress of Architects said that in the United States among their reproductions of Continental architecture they had already in Florida specimens of the Spanish Renaissance as fine as any in Spain. At Philadelphia they had very high buildings, occupied by bureaus of commerce, where the ground floor and the first floor were in the style of Francois I., as fine as any examples of that epoch in France. At New York they had a "Tour Giralda de Seville," and at Boston a Sainte Genevieve library, a perfect example. But a modern spirit, national, indigenous, and inspired by their epoch, a spirit which represented that epoch instead of those servile copies of old-world monuments, had yet to come, and they awaited its advent with impatience. That was nine years ago, and they were still impatient. Since then XXth century life has created XXth century problems. Since then architecture has passed through the experimental stage, and was now recognised as one of the learned professions. This fortunate state of affairs had been brought about primarily by the creation of an educational system which stretched from the Atlantic to the Pacific, a system so liberal in its interchange of courtesies between the architectural societies and the architectural schools of their universities that it was now possible for any talented and ambitious draughtsman (either college or office trained) to procure the advantages of foreign travel, as well as a course at the Ecole des Beaux Arts, without cost to himself. Moreover, a complimentary arrangement had even been made by the French Government whereby the winner of the Paris prize in the final competition of the New York Beaux Arts Society was admitted to the first class upon his arrival in Paris, thus eliminating an exacting entrance examination and all the work of the lower class required of other architectural students at the French National School of Fine Arts. Their educational system, however, was not alone responsible for progress and prosperity. They had had unusually lavish opportunities to build; and, lastly, their endeavours had been loyally seconded by an Architectural Press, which had done much to raise standards and to diffuse knowledge. And now the domestication or nationalisation of their architecture was the next problem confronting them. The florid oyster ornament so common on the inferior new buildings of Paris—and its architectural suburb, New York—was a manifestation of ignorance which they were combating, many contending that in a search for indigenous sources of inspiration their traditions led to England rather than to France. For instance, within one hundred miles of his home, let him tell them of some of the customs in vogue, which were still carried out under the shadows of good old Georgian buildings. At Lancaster and York ancient rivalries were perpetrated by emblematic use of the red and white roses of the Royal Houses, for which those towns were long ago named. At Bethlehem a trombone choir ascended to the lofty belfry of the old Moravian church, and these, by playing familiar chorals announced to the people below the death of a member of their congregation. At Bird-in-Hand a church debt was solemnly discharged annually by the payment of a single red rose. At Ephrata the old monastery still stood where Protestant monks and nuns lived. Thus in the United States more than anywhere else their architects were entitled, both on account of diverse historical associations and because of the constantly increasing mixed population, to come to a reunion like this, prepared to learn something from every delegate that might be turned to appropriate and practical use. Naturally their thoughts turned first to the Mother Country, and with gratitude to the Royal Institute of British Architects for the magnificent entertainments they were enjoying, and for the many expressions of cordial goodwill they had listened to. They fully recognised how vitally and intimately related their work is to the work of the English architect; they recognised the manifold advantages to be derived from an international *entente cordiale*, and in consequence they proposed to do all in their power to strengthen, fortify, and buttress those fraternal ties.

Herr Bernard Felisch having spoken,

Mr. Hugh Stannus said that, as Mr. Jackson had remarked in his very thoughtful paper, the public whom they wanted to educate in architecture were their masters, and naturally their clients. If architecture be combined of three elements—firstly, the plan, that accumulation of cells which together made the building, the cells themselves, and the conglomeration of those cells arising from the function that they expected the building to perform; secondly, the walling or the inclosing of those cells when they had put them together; and, thirdly, the decorating in a fitting and logical manner of the building—they had got to educate the public to recognise those three elements, and they could do it in the way Mr. Jackson had pointed out. They might build large buildings by way of educating the public, and he believed that the majority of them would be only too glad to educate the public in that manner; but unfortunately the public went to others besides architects. He quite granted that they were the salt of the earth and that wisdom would die with them, but the public was not content merely to come to them; it went to others, and they must remember that bad buildings were made as well as good buildings. If they were to educate the public while they were waiting for the buildings to be made, it must be done by lectures, and their lectures must be made more interesting. They must interest the public and get them to attend before they could get them to accept their *dicta* on the subject. Then, in the second place, their lectures must be clear and convincing with regard to the plan. Too much had architecture been considered to be merely a matter of the outside, of the perspective, for they knew that all that was required by competition committees were perspectives of the outside of buildings. They ought to recognise that architecture was the inside as well as the outside—that a building should grow from the inside, and that the inside must be considered and planned first. That led him to the suggestion that more and more they should try to persuade competition committees that, in addition to the perspectives, there should be sections and plans in perspective. That was one of their methods at South Kensington—when they had a plan of a building it was put into perspective, with the walls showing a certain height all through. In that manner the public understood a building much better than if they merely had the plans drawn geometrically. He wanted to see perspective sections required by competition committees, and in that way the public could understand the inside of a building much better than by the mere ordinary elevation. Those of them who were old enough to recollect the first publication of Choisy would remember that it was from those beautiful perspectives with which he enriched his book that they were able to learn more about the construction of Gothic architecture than from a mere plan of elevation. The first point, therefore, he wanted to make was that they should think in perspective, and he remembered his great master and tutor, Alfred Stevens, said that about perspective. Secondly, he wanted to say something about the use of models. Their brethren in the engineers' craft made very much of models in the teaching of engineering. Of course, they had models of complete machines, but they also had in an engineering class models of portions of machinery—models of pulley blocks, pedestal blocks, cranks, etc.—portions of machinery which were capable of being put together to construct machines out of. They as architects might very well take a lesson from their book, and he believed the more models they employed in the teaching of architecture—models which were capable of being taken to pieces and re-combined to make further designs—the better for the student and the more they would be able to interest the public. If they had lectures accompanied by models which could be taken to pieces, instead of lantern slides, he thought they would be able to interest the public more. He would further suggest that the lectures should not end when the last echo of the speaker's voice had died away, but that every lecturer, whether lecturing before the public or before a class of students, should allow half an hour for questions and conversation and perhaps for practical demonstration on the subject. In that way he ventured to think that they would interest the public, and by interesting them they would be also educating them. Architecture was essentially the art of putting together, and if they desired to interest the public he ventured to think that their method of teaching should rather be by way of models of small portions of the building, reserving the analytic method for dealing with their students.

Herr H. P. Berlage (Amsterdam) said he agreed with what Mr. Jackson had said in his paper, that after all the best means of educating the public in architecture was by the production of well-designed buildings.

On the motion of Mr. Kelsey, a vote of thanks was accorded to the chairman for presiding.

President's Garden Party: Botanic Gardens.

In the evening the President's garden party was largely attended; the reception was within the entrance of the large conservatory, through which visitors poured in a nearly continuous stream from nine to ten. The lighted gardens looked even more beautiful than usual, perhaps from a more liberal allowance of Chinese lanterns. The band of the Horse Guards played in the gardens; in the conservatory there was a musical entertainment of a more æsthetic order, furnished by "The Ladies' Salon Quintet," a piano and a quartet of strings played by lady artists, who gave a very refined and finished performance. In the course of the evening a little ceremony took place in the committee room of the gardens, when M. Daumet presented to Mr. Belcher, as President of the Institute of British Architects, and as a gift to the Institute, the medal of the Institut de France, with a reverse inscription connecting it with the occasion.

FRIDAY'S PROCEEDINGS.

Visit to Cambridge.

Some two hundred and fifty members of the Congress, including the President, paid a very pleasant visit to Cambridge on Friday. True, it is not possible to obtain much more than a glimpse of the town's chief architectural features in the space of a few hours, but the committee in charge of the excursion had succeeded in arranging a programme, which, including as it did inspection of three such Colleges as Trinity, King's, and St. John's, could hardly have been altered for the better. A special train left St. Pancras at 9.45 a.m., and ran into Cambridge an hour and a half later. Brakes were in readiness to take the party to the Senate House, where Dr. Butler, Master of Trinity, who was acting for the Vice-Chancellor, received the visitors. The foreign delegates and several members of the Executive Committee were then presented to him by Mr. Belcher, after which Dr. Butler, in the happiest possible terms, welcomed, in the name of the University, its British and foreign guests. He took occasion to observe that the building in which the members of the Congress then found themselves was used for purposes both of examination and of admission to University degrees, equally a centre for professor and undergraduate. The galleries overhead, he went on to say, which were now empty and had perhaps even been unnoticed, could hardly escape a very general inspection at most times when the Vice-Chancellor occupied his chair by reason of the very marked behaviour of their youthful audiences. He was delighted to welcome the members of the Congress, both in the name of the University, and, if he might be allowed, also in the name of his College. Dr. Butler was attended by Dr. Geo. Cunningham in the absence of the University Registrary (Mr J. W. Clark).

From the Senate House Dr. Butler led a procession along Trinity-street, where members of the Congress had an opportunity of seeing the new buildings of Caius, built by Sir Aston Webb, to his own College, at the famous gate of which Dr. Cunningham delivered the first of an interesting series of short explanatory speeches. In a few words he sketched the history of the gate and the Great Court into which it leads. It was owing "to the taste and energy of Dr. Thomas Nevile, who became Master in 1593," he said, that the Great Court had begun to assume its present magnificent proportions. Ralph Symonds, the architect of the famous second Court of St. John's, had been called in to superintend its construction, and it was due to him and Nevile that Cambridge could

boast of what was unquestionably the finest court of its kind in England.

Next the party passed into the Chapel, the Fellows' Garden, the Screens, and the Hall, the latter "copied with certain alterations from that of the Middle Temple." Thence in small groups the members inspected Nevile's Court with its library, one of Wren's most successful works. Further speeches told how the architect had not omitted to design the bookcases and other furniture, so that the library was one of the noblest in the country. Passing under the Cloisters the visitors entered the garden adjoining the river, and caught their first glimpse of the "Backs," of which they had heard so much. From this garden a splendid view of the back of the library was obtained, and many questions from foreign visitors were raised with regard to the peculiar tints of its stones.

It was now approaching lunch-time, and the party divided itself into three groups; the largest, some hundred and fifty in number, went to the Hall at King's College, the others dividing themselves between Clare and Trinity Hall. At King's the Vice-Provost of the College took the chair, sitting between Mr. Belcher and the Master of Trinity.

Lunch over, the Provost of King's (Dr. James) delivered, in the Chapel, an address, which out of compliment to his foreign guests was in French. In sketching the history of this most famous of all chapels, he commented upon the fact that in all probability his own College and that of Eton had been designed by the same person. The stone used for both foundations had been quarried "at their joint expense, and then divided between them." The Chapel itself had been completed during the reign of Henry VIII. He drew attention to the windows which, as Mr. Clark had observed, are perhaps "the most important specimens of English glass-painting that have been preserved."

In the interval between the inspection of the Chapel and the drive through the town a few members of the party seized the opportunity of examining Pembroke, one of the three most ancient Colleges in the University. Here the butler showed an audience that was all too small over the Chapel, built by Wren, with carvings ascribed to Gibbons, the College silver, and the fine XIVth-century benches still in use at the bachelors' table in Hall.

Passing out by the side gate of King's, the party made its way by the back of St. Catharine's to Queens'—one of the most interesting of the smaller Colleges—ultimately crossing the quaint old bridge to Silver-street, where the brakes were waiting to convey members along the "Backs." At the gate of St. John's they alighted, and once again had a sight of a College garden, among the best of its kind, the back of Trinity Library, and the river at its most picturesque point. Then followed a slow procession over the Bridge of Sighs to the third Court, thence into the red-brick Quadrangle, pronounced by more than one writer the most beautiful in Europe, into the Hall, and so out into Trinity-street.

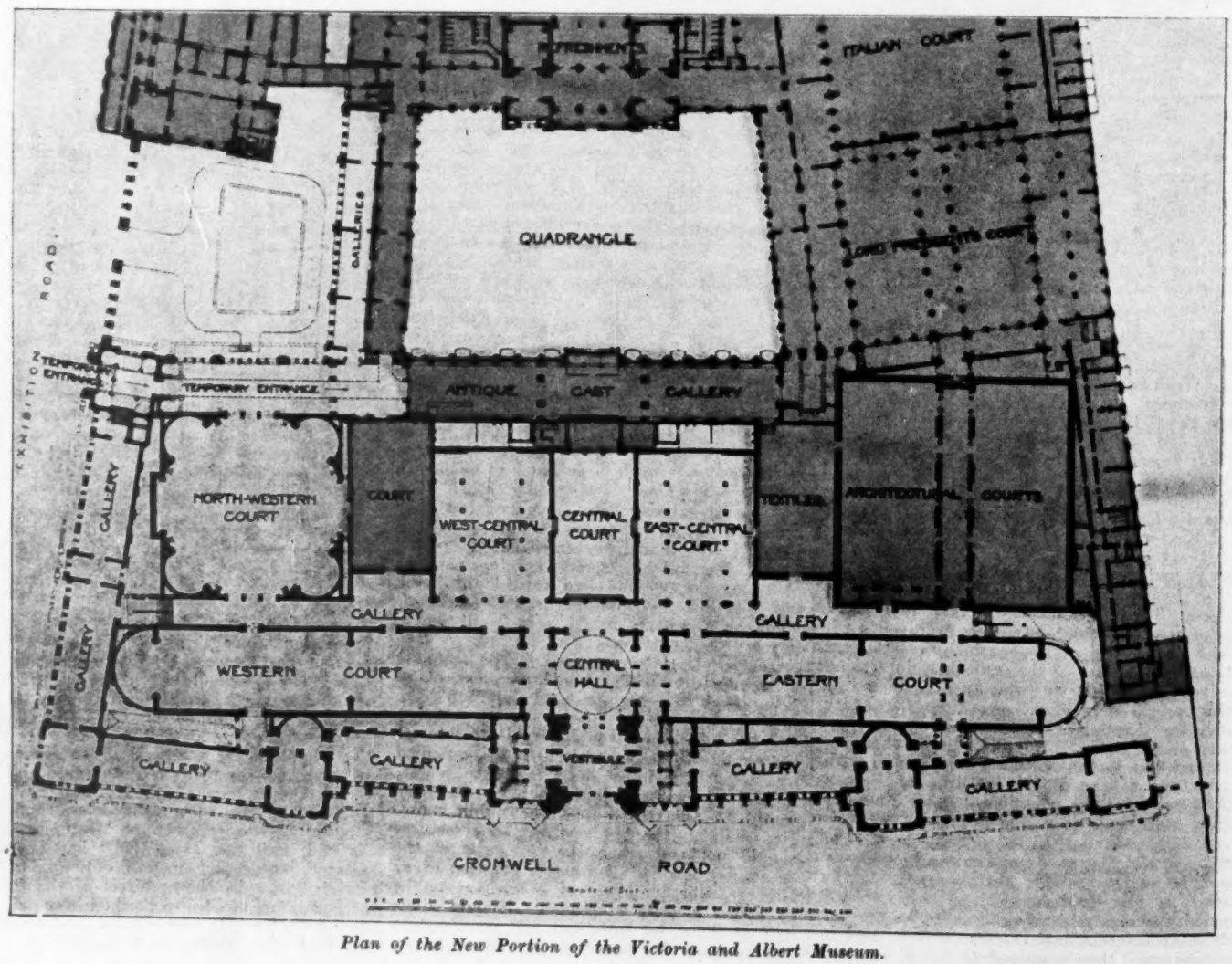
A minute later one of the four round churches which England possesses—the Church of the Holy Sepulchre—was filled with members. This building is "reputed to be the oldest of the English round churches, and to have been consecrated in 1101. Its inspection proved not the least interesting incident of the visit.

From this point the brakes were again in use, and the members enjoyed a drive which included glimpses of Jesus and Emanuel Colleges, the new Science buildings completed only a year or two ago, and the new Court of Pembroke, the work of the younger Gilbert Scott. A hurried tea at the station, and the party left for London by a special train at 5.7 p.m.

Mr. Fawcett, helped by a small committee consisting of Mr. Blackburne-Daniell, Mr. Alfred Cross, and Mr. Ralph Straus, arranged what was commonly allowed to be a very successful programme.

College of Science and Victoria and Albert Museum.

In the afternoon about fifty members, ladies and gentlemen, attended to visit the College of Science and the new buildings of the Victoria and Albert Museum, under the guidance of Sir Aston Webb. There would no doubt have been a much larger number, but for the fact that the all-day visits to Oxford and Cambridge had taken so many vistors out of town. The party met at three at the College of Science, when Sir Aston Webb took them round the building, explaining the special points of construction for ensuring freedom from vibration in the physics laboratories, which have been described on a previous occasion in our columns. Sir Aston pointed out that while chemical students, as they advanced in proficiency, moved higher up in the building, for the sake of better light, physics students began at the top of the building and descended to the ground floor as they advanced in the classes, as what they required above all things was a solid foundation and freedom from disturbance by vibration. The upper story of the physics department showed the only wooden roof in the building, steel being avoided here on account of its disturbance of experiments in electricity and magnetism. The roof is of sequoia wood, which has been largely used in the building, and looks very well. A gallery has been constructed along the centre of the roof framing, to afford an opportunity for pendulum experiments. In regard to the main staircase, the architect drew attention to the fact that the centre well had been floored over at each level, instead of leaving the staircase hall open to the ceiling; the architectural effect might suffer, but the open staircase hall would have been noisy, whereas the construction of a floor at each level not only prevented this, but also gave the students a convenient place on each floor to assemble when necessary. After looking at the exterior of the building from the opposite side of the road, the party proceeded down Exhibition-road and round by Thurloe-square, in order to get a view from there of the portion of the front of the Victoria and Albert Museum from which the scaffolding is now uncovered. The architecture from that point looks very bright and sparkling in effect, and



Plan of the New Portion of the Victoria and Albert Museum.

the portrait sculpture in niches comes out admirably. The niches in this portion of the building are filled with portrait statues of eminent architects; those in the corresponding position on the other side of the façade are to represent sculptors; statues of painters are to fill the centre portion, and statues of craftsmen are to occupy the niches on the return front towards Exhibition-road. On these works sixteen among the most able of the younger sculptors of the day have been employed, each sculptor taking two figures. An important point in regard to these stone sculptures is that the stone out of which they are carved has been built into and bonded to the walls, and the carving then executed *in situ*, so that there will never be any trouble from the failure of cramps and the possible danger of the falling out of a figure in consequence. The party then entered the building, which of course is at present only in a shell state inside; but by reference to a large plan displayed in the centre hall Sir Aston explained the arrangements of the new portion of the building, of which we give the plan. It will be seen that on entering the central hall the spectator has the whole length of the building visible to him to right and left along the western and eastern courts. The original fan shape of the plan had been departed from when the architectural courts were built with an axis placed at right angles to the line of Cromwell-road at that point; and this occasioned the special treatment of the plan of the front façade, in order to keep the western portion at right angles with Exhibition-road, and at the same time to have the eastern portion at right angles to the axis of the architectural courts. Care had been taken, in setting out the plan, to provide for vistas which might lead up to important works of art. The West Central Court and East Central Court have been planned in a basilica form, with side aisles divided off by columns, the aisles being finished with a cross-vault ceiling; the intention being to place here works of ecclesiastical art in a surrounding somewhat suggestive of a church. There will be no elaborate decoration, however, as the principle throughout the treatment of the interior is that the exhibited works are to be the decoration, and that the building is only, as it were, a case to contain them. The North-Western Court, a square reduced by the large niches to an octagon, will probably be used for the exhibition of sculpture. The smaller galleries will be used for collections of works of special character; one for silver work, another for textiles, and so on. The walls are all to be finished internally in a substance called "cranham," which, while sufficiently hard, will admit nailing into it for the fixing up of such smaller works or cases as may be hung to the wall. In passing through the building, Sir Aston pointed out that the large arches which form partial architectural divisions, such as those across the western and eastern courts, and those in the entrance-hall, are all of the same centres and dimensions, so as to give a note of unity to the principal features of the interior. After traversing the principal parts of the building, the visitors were invited to a tea provided in the room adjoining the main refreshment-room of the old buildings, when a member expressed, on behalf of those present, their thanks to Sir Aston Webb for his invitation and for the lucid and interesting description which he had given them of the main points in the two buildings they had been visiting.

The Tomb of Agamemnon.

Mr. Phenè Spiers and M. A. Wielemens (Austria) were the joint Chairmen at the Grafton Galleries on Friday night, when Mr. Cecil Smith, LL.D., Keeper of Greek and Roman Antiquities at the British Museum, lectured on "The Tomb of Agamemnon." The lecture was illustrated by a series of dissolving views.

Mr. Phenè Spiers said it was an easy task to introduce Mr. Cecil Smith, for he was so well known in connexion with his researches at the British Museum. Mr. Smith's presence on that occasion was extremely apposite, because they owed to him to a great extent the discovery of the missing portions of the shafts which flanked the doorway of the Tomb of Agamemnon at Mycenæ. Mr. Smith saw some photographs of pieces of stone, and recognised at once they were of the greatest importance, and he accordingly went over to Westport to the house of the Marquis of Sligo, and found that these fragments, which would be described to them, were some of the missing portions of the two shafts of this tomb. The lecturer would give them an account of all earlier researches, and show them slides made from special drawings, and would tell them all that was known of the tomb up to the present time, and of the greatest and most important task which had fallen to him—the putting of the fragments of the shafts together.

Mr. Smith said: "The British Museum has recently become possessed of a monument, or, rather, a part of a monument, of great interest in the history of Greek architecture, and it is with much pleasure that I take the opportunity kindly offered me by the Committee of the Architectural Congress of presenting here the first published account of it. Through the generosity of the Marquis of Sligo three portions of shafts of the columns which decorated the doorway of the Treasury of Atreus at Mycenæ have been presented to the nation. With the help of casts from portions existing elsewhere, and with the addition of one or two fragments which were already in the British Museum, we have been enabled to restore and set them up, so that for the first time since the earthquake or vandalism which overthrew them we can now see them once more approximately in the form in which they stood at least 1,000 years B.C.

Of course, it must be understood that the rediscovery of the shafts does not actually afford any new data for the restoration which were not previously in existence. The portions of the columns which already existed in different museums, compared with the traces left on the monument itself, were sufficient to permit of such a restoration, which has, indeed, been more than once attempted on paper; but the new material enables us to determine the true dimensions beyond all doubt, and makes such a restoration more worth attempting.

The history of classical architecture has thus taken an important step into the misty background which enshrouds its origin. Of these origins we have been gradually learning to know something more in the last twenty years, and particularly through the great discoveries of the last seven years in Crete. The excavations of Dr. Evans at Knossos and of Professor Halbherr at Phaestos have shown us that it is here we must look for the origins of all Hellenic culture. At present, however, the centre of interest both at Knossos and Phaestos lies in a period which is far remote from the Classical age of Greece—before the first temple of Classic order arose on Greek soil. The age of Minos, from which it descended, had already pressed into legend. The real connecting link between the two is offered by the remains of Mycenæan populations on the mainland; above all, the fortress towns of Mycenæ and Tiryns, of which the colossal cyclopean masonry of their walls has resisted the ravages of time. But though the spade on these sites has revealed for us a marvellous picture of the domestic life and thought of the Mycenæan world, of their architecture, it has laid bare but little beyond the ground plans. Of the elevation of the Mycenæan palace or house our knowledge must still be based largely on inference. There is, however, one class of remains of which the conditions of contruction have favoured a more complete preservation, and that is, the so-called treasuries or tombs, which were intended to be covered with earth, and which the kindly soil has preserved for us more or less entire. Such buildings have been discovered at Orchomenos, in Bœotia, at Menide and Sparta, in Attica, and, above all, at Mycenæ, where is the most famous of all—the 'Treasury of Atreus,' or 'Tomb of Agamemnon.'

Before the XIXth century such visitors as travelled in Argolis regarded this building as the Tomb of Agamemnon. Peter Laurent, in his 'Recollections of a Classical Tour,' made in 1818-19, on page 46 says: 'This vault was for a long time denominated the Tomb of Agamemnon, and Chateaubriand in his itinerary mentions it as such.' 'This traveller,' he goes on to say, 'certainly did stop in his hasty gallop across the Peloponnesus to look at Mycenæ through a spy-glass from the road and to devote some moments to his romantic feelings heated by so near a view of the kingdom of Agamemnon; but it should be recollected that Agamemnon and all those who were murdered at the banquet by Ægisthus are represented as having been buried within the citadel.' That represents fairly well what was the accepted view at that period, a view which seemed to receive confirmation from the description of Pausanias, who mentions the 'subterranean buildings belonging to Atreus and his children where their treasures were kept.' Comparison with other similar structures which have awaited the excavator more or less intact has shown that Chateaubriand was right and Pausanias was wrong—the buildings were tombs. Moreover, they were, properly speaking, not really subterranean. The ordinary mode of construction was as follows:—Into the side of a hill a broad passage-way (dromes) is driven, open to the sky, and lined on each side with masonry leading up to the doorway of the chamber itself. This chamber is hollowed out of the earth (sometimes partly built up and covered with heavy rocks and earth) in dome or beehive shape, and lined with regular concentric courses of squared masonry, narrowing gradually to a capstone at the summit.

A curious example of such a tomb in actual use occurs on an Attic vase in the British Museum, representing the beautiful myth of Glaukos and Polyeidos. Here the beehive-shaped tomb chamber is shown in section, with the two figures inside, and a small tripod surmounting it as a kind of tomb monument. This vase dates from the middle of the Vth century B.C.; it is hardly probable that the beehive tomb continued in use down to that date, but it shows at least that the tradition of it had survived, and, indeed, it may well be that the Athenians of the time had access to some of the examples surviving from a previous age. For these tombs were not merely intended for the reception of the dead. The Greeks were from very early times devoted to ancestor worship; by death they thought the mortal put on immortality, and the tomb was not only his resting-place, but a shrine at which his kinsfolk would at recurring intervals pay him semi-divine honours.

In two instances (the Treasury of Atreus and the similar tomb at Orchomenos) a smaller side chamber is added at right angles to the axis of the tomb, and entered by a doorway in the centre of the right-hand side. In the case before us this is excavated out of the rock, but the roughly-hewn walls have probably been faced with a revetment now lost. Probably this side chamber was intended to receive the remains of the less important members of the family—the poor relations—or the more precious of the offerings. In some of the later tombs the main receptacle is provided with a niche or pocket at one side to hold the offerings, possibly as a reminiscence of this custom.

As the tomb chamber served the purpose of a shrine, it was necessary that it should have a worthy passage and doorway; but the Treasury of Atreus is the only example in which the architectural features are so imposing and the wealth of decoration so elaborate.

Before the beginning of the last century the tomb was already rifled, and the upper part of the entrance was laid bare. Fragments of the richly-sculptured decoration of the façade were still lying *in situ*; some small portions of these decorations have found their way into various museums, but the greater part has entirely disappeared. It is possible, however, to reconstruct with more or less probability the main features of the architecture. The doorway itself is measured from the floor, which is some 4 in. lower in the gangway than at the sides, probably owing to denudation, is 18 ft. 1 in. high and 9 ft. wide at the base, narrowing to 8 ft. 3 in. at the lintel. The edge of the masonry immediately around it is enriched with two mouldings, of which the edges are curved, and on either side with a semi-column in dark grey limestone, engaged—that is, with the flat or split surface attached to the wall. It is these columns which are the principal subject of my paper this evening.

In the year 1811-12 the second Marquis of Sligo visited Greece, and during his stay seems to have interested himself, as so many of the visitors at that time did, in acquiring a small collection of antiquities.

Unfortunately, no record appears to have been preserved in the family papers of the details of Lord Sligo's researches. The proceeds seem to have been, for the most part at any rate, removed to the family estate at Westport, county Mayo, and it is only from an examination of these that an idea can be obtained of the field of his labours. There is, however, one mention in the literature of travel which associates him with the Treasury of Atreus. Laurent, in the work already quoted, describing that monument, says: 'During the stay of Lord Sligo excavations were made in this building under his direction and that of Seli, the Pasha of Tripolitza; we were informed that the result of these researches was the discovery of the shafts of two columns without either capitals or bases; these were immediately presented to his lordship, who carefully transported the treasure to England.'

Among the papers of Lord Elgin at Broomhall my colleague, Mr. Arthur Smith, has recently found letters from Lusieri, the Neapolitan artist employed by Lord Elgin, which throw a somewhat different light on the affair. In one of these, dated September 2, 1810, he says:—'Veli Pasha de la Morée a fait excavation à Argos et Mycènes; il y a trouvé différent morceaux de sculpture vendus à Messrs. Knight et Fazakerly et deux colonnes données au Marquis Sligo,' and in another, dated September 4, 1811:—'Veli Pasha de Trepolitza ayant entrepris des excavations dans la Morée a achevé celle du Tombeau d'Agamemnon où il n'a pas trouvé que quelques morceaux de marbre. Dans un autre près de l'ancien théâtre d'Argos il trouva des petites statues d'un sculpture mediocre, qu'il fit vendre bien cher a M. Fazakerly, il fit present d'autres marbres et vases à Milford Sligo, qui lui coutèrent aussi beaucoup, et qui valoient bien moins.' Veli Pasha's excavation does not appear to have amounted to very much so far as the Treasury of Atreus was concerned. During the early years of the century the site was visited and described by several travellers. Dodwell was there in 1801-06. Gell at about the same time, Leake paid his second visit in 1806, and in 1801-05 the architect employed by Lord Elgin, Sebastien Ittar, of Catana, made drawings of what was then visible. This last is also credited with an excavation, but this probably refers to some small clearing which was necessary for the purpose of making the drawings and plans. One thing is certain from the evidence—that already before Lord Sligo's visit the columns were no longer in position; the space in front of the doorway and the whole of the dromos or passage of approach were still half choked with soil, which probably contained some of the remains of the decorative facing of the façade. Leake, in his "Morea," page 374, says: 'On my former visit to Mycenæ there were several large fragments of these semi-columns lying on the ground; I can now only find one or two very small pieces.' This was in 1806. Two small fragments came to the British Museum with the Elgin collection, and are said by Dodwell to have been found by the excavators of the Earl of Elgin; two more from the Institute of British Architects in 1843, and a few others are scattered in European museums.

A comparison of the views of the building drawn before and after Lord Sligo's visit seems to prove that Veli Pasha must have confined his attention possibly to the interior, but mainly, at any rate, to that part of the dromos immediately in front of the doorway. In 1878 the Archæological Society of Athens commissioned M. Stamatakis to make a complete clearance of the entire soil and rubbish encumbering the monument. A drawing made shortly before this shows the condition much as in Gell's and the Elgin drawings, only on the sides near the entrance are traces of sinkings in the soil, which may very likely be those caused by Veli Pasha's excavation. The columns were each carved, as the marks of attachment show, in two solid blocks, each about 8 ft. long, joined together halfway up; weighty objects such as these could not be easily moved, and when in the first disintegration of the building they fell forward from their place they would probably lie not far away from their original position. One half column was quarried out probably by the builders of a Turkish mosque. In 1812 Baron Haller, the companion of Cockerell in the famous enterprise at Ægina, saw it at Argos lying outside the great mosque there; subsequently Colonel Mure (1838) describes what was probably the same half column as 'forming the architrave of a building at Nauplia, formerly a Turkish mosque, in which the Courts of Justice held their sittings.' It has now been rescued, and is worthily set up in the national museum at Athens. From 1812 onwards the remaining three halves of the columns remained *perdus*. It was only last year that the Earl of Altamont, son of the present Marquis of Sligo, in the course of studying the ancient monuments at Westport, was led to the conclusion that certain columns in the collection were of unusual importance. He made careful drawings and photographs of them, which were brought to the British Museum, and the probability that the Westport objects were the missing decorations of the Treasury of Atreus was at once evident on a consideration of the facts already stated. Lord Altramont soon afterwards paid a visit to Mycenæ for the express purpose of comparing his measurements with the traces left *in situ*, and the result leaves hardly any doubt that the surmise is correct. The credit of this interesting discovery is thus due to Lord Altamont.

The reconstruction of the columns was a matter of some trouble, in which I was fortunate in having the assistance of Messrs. Pinker and Holcombe, our skilled masons at the Museum. The first question was to decide which shafts belonged to which side. For this purpose I asked Mr. Bosanquet, Director of the British School at Athens, who very kindly had drawings made for me of the bases which were still *in situ*. These bases are formed out of bluish-yellow breccia blocks, which are sunk to the level of the lowest steps and bedded with cement, the block being, as may be seen, considerably larger in plan than that part of it which forms the stepped base. An instance of the absence of symmetry which obtains all through the construction of the Treasury is shown in the upper surface of the left-hand base, of which the plan, instead of being rectangular, takes the form of a trapezium. Fortunately, the same irregularity has been observed in making the cramp-holes to receive the lower shafts of the columns, and, as we fortunately possess the lower edge on one shaft, with its cramp-holes, it was easy to decide that the two larger portions of shaft, forming nearly one entire column, must belong to the left-hand base. This column is larger in section than the other by 1 in. all the way up. It has thus, with the ornamental pattern to help us, been possible to deduce with practical certainty the exact position of every fragment. The upper portion of the right-hand column is the part which has been already mentioned as built into a mosque at Argos, and now at Athens. In the Athens Museum it is set up by the side of a partial restoration of the two capitals. Unluckily, the Turkish architect, whether because he objected to a carved face on his lintel or for some other reason, has sliced off a wide strip of the front throughout the whole length. The slide before you shows the two capitals with the original fragments existing at Athens inserted in a kind of dummy restoration. By the kindness of the authorities at Berlin and Karlsruhe I was enabled to get casts of the important fragments there preserved. The Athenian dummies required some small corrections, which the other fragments enabled us to make, and it then became perfectly clear that one cap was of appreciably larger dimensions than the other. It was thus an easy matter to determine which capital belonged to which column. In our restoration throughout a distinction is observed between pure restoration in plaster and casts inserted from originals which still exist. The latter are coloured a slaty bluish tint, while the restoration is in buff. In the slide before you it may be seen that, although all is in plaster, sufficient of the original is represented to make the completion of the cap justifiable. As there was no apparent variation in the pattern all round, it was sufficient to take a squeeze of the original portion and repeat it as long as was required.

In most of the former restorations of these capitals it may be remembered the angles of the patterns on the echinus are made to run outwards from a diamond-shaped centre. Curiously enough, this error is not found in the earliest, that of Lord Elgin's architect, Ittar, but seems to have begun with Donaldson, although he based his design on Ittar, and it has continued, together with an entirely unworthy rendering of the charming leaf patterns below the echinus, even down to that excellent work of Puchstein—'Das Ionische Capital.' Now I hope it is laid for ever. In the slide before you you see the columns as set up in the British Museum. The bases have been reproduced as nearly as possible in a material which was the nearest approximation to the original procurable—a marble called *brèche d'or*. The originals presented by Lord Sligo can be clearly distinguished in the slide. What is not quite so clear is the small piece of the leaf pattern under the right-hand echinus, which came to the Museum with the Elgin collection, and the fragment on the right-hand shaft presented in 1843 by the Royal Institute of British Architects. These little waifs have at last returned to what I trust is their original home.

I have already alluded to the absence of precision in the working of these columns, which amounts almost to carelessness. Both in the shafts and in the capitals an instance of this is to be seen in the way in which the pattern is not worked out to the edges. On the shafts especially, the edges where they meet the wall are left altogether unworked, so that a straight edge can be passed along them and it is perfectly true. This may be partly due to the desire to strengthen a fragile part, but that does not account for the neglect of the pattern, which sometimes extends as much as 4 in. from the edge. It looks as if the columns had been sculptured with the decoration after they were fixed in position. If that were so, on the outer edges particularly, it would be difficult to get this point of view, and so the artist may have thought it of less importance.

The shaft, which is 18 ft. 3¾ in. high, is 1 ft. 10in. in diameter at the lower extremity and 2 ft. at the upper, showing a taper downwards of 2 in. This peculiarity, which is also found, of course, in the pillar of the well-known Lion Gate at Mycenæ, is of common occurrence in the Minoan period in Crete, although not by any means universal. In the temple fresco at Knossos no less than three such columns are shown of slightly varying forms. These columns may for various reasons be inferred to be of wood, and hence their rather squat form, and the base or socket in which the central one rests. The Atreus columns are far more attenuated, having in the shaft 9½ diameters, against only 5½ at Knossos. This is only what one might expect in the translation from wood into stone, and for the same reason we may be prepared for the minute base at Mycenæ. What is the reason of this tapering form? Various theories have been suggested. M. Perrot supposes that it came about through the necessity of pointing the end of the wooden post in order to fix it in the ground, but he seems to me to stultify his argument by an attempt to explain the base. 'Experience,' he says, 'taught men later to interpose a slab or cube of stone between the post and the rain-soaked soil.' Surely, if the slab of stone is there, the sharpening of the extremity is rather a drawback than otherwise? I do not know that I can suggest a more satisfactory solution. Certainly it is to Egypt that we must look, and in Egypt there is one form of column—that imitated from the bundle of reeds—which tapers towards the base. Whatever the origin, there is no doubt that the downward taper answers a special service here, where it serves to correct as it were to the eye the outward slope of the two sides of the doorway.

'The practice of decorating the shafts of columns is, of course, native in Egypt. It is interesting to observe that in the palace of Tell el Amarna Mr. Petrie found the fragments of a column shaft decorated with a pattern closely resembling that of the Atreus columns. Now there is evidence at Tell el Amarna of the influence of Cretan or Minoan artists having been at work there, and I think we may conclude that this style of decoration grew out of the contact of Cretans with Egypt. The decoration of the echinus is unusual; the nearest parallel in later times is perhaps the series of Doric capitals at Paestum, which are given in Schuckhardt's "Ionische Capitell," pages 48 and 49. The function of the columns here is probably

mainly decorative, as they are not calculated to support much superincumbent weight beyond that of the lower projecting courses above the doorway. The question of the decoration of the façade above the doorway is one of considerable difficulty. We are bound, I think, to assume a devetment of sculptured slabs, but though several suitable fragments exist, it is only an assumption that these belong to this part of the building, and not one scrap remains in its original place. I hope before long to obtain casts of all these fragments, and, after examination of them, to visit Mycenæ and see whether any certain data can be laid down beyond what we already know. Meantime, it may be of interest to show on the lantern some of the restorations that have been attempted."

The lecturer proceeded to present a series of views and drawing of various restorations, and pointed out that the lions' heads shown in Ittar's drawing appeared to him to be wrong. A rough sketch was shown by Cockerell, which the lecturer thought probably first sugested the idea of filling in the niche by two lions—an idea which was taken up by Donaldson. Until, however, the lions were discovered, the question whether or not the niche was filled in this way must remain vague. With reference to the restoration prepared by Mr. Phenè Spiers, Mr. Smith expressed the opinion that it was the most satisfactory restoration we have had of the façade. Mr. Phenè Spiers had filled in the niche with lions, and the only suggestion he (the lecturer) would make was that the lions should have had their faces outwards. He thought also that the round ornaments were not quite in their right position. With regard to a pencil drawing by Cockerell, Mr. Smith thought the artist must have had some means not known now to get to the top of the dome, as it shows the method of the construction of the last stones immediately surounding the cap stone.

In conclusion, Mr. Smith said:— "When Mr. Cockerell was in Athens at the beginning of last century a Turkish official one day asked him how Englishmen amused themselves in Greece. His reply was, 'In examining antiquities and ancient cities celebrated in the accounts of historians.' The next questions was, 'Do those same historians in their accounts ever tell you where to find sequins?' When we look back on the roll of distinguished names of Englishmen who played so prominent a part among the pioneers of archæology in Greece—Dodwell, Leake, Gell, Cockerell, and others—without hope of sequins, but merely for the advancement of science, I think we may claim before even an international audience that England has done something to deserve the heritage of Greek originals which has fallen to her share, and of which the columns shown this evening are the latest and not the least important example."

Sir Henry Howorth said that it was very seldom that one met with a student either of archæology or science who had the gift of describing with great precision of language and without useless rhetoric an admirable monument like that. It was Mr. Smith's quick eye which first recognised the importance of these fragments, and they could hardly appreciate, unless they knew the history of the past few months at the museum, the pains and care and skill which he had shown in restoring this gateway. One thing struck him, which was, how it was that architects who had designed so many classical buildings, both in ancient and modern times, abandoned this most beautiful and graceful method of dealing with pillars. Pillars were very difficult things to ornament. Here, however, they had a method of decorating pillars which to him seemed graceful, and which did not in the slightest degree appear to weaken the supports. He hoped they might see someone attempt to imitate in a measure this method of treating pillars and pilasters.

Professor Baldwin Brown asked the lecturer whether he had made up his mind as to the reason for the tapering downwards of the columns, which, of course, was not the ordinary way for columns to taper in later architecture, and also whether he had formed any idea of the origin of the ornamentation of the columns—whether it was transfered from some other material, or whether it was developed on the stone itself. Like all present, he had listened with great interest to the lecture. Not long ago he was on the spot, and it revived one's impression to see the whole thing brought forward in a lucid manner.

Mr. J. D. Crace said he would like to know whether in the course of the many excavations which had been made any trace of the metal lining of the interior had been found.

Mr. H. H. Statham proposed a hearty vote of thanks to Mr. Cecil Smith for his exceedingly learned and interesting paper.

Mr. Baggallay seconded the motion.

Mr. Phenè Spiers said that, as far as he could gather, Professor Baldwin Brown asked the reason for the tapering downwards of the columns. There was no possible doubt whatever as to the columns tapering downwards in the frieze discovered at Knossos. The frieze which had been reproduced on the screen that night showed a decided tendency in that direction, and Dr. Evans had found traces of the ends of the columns still remaining, and also impressions of their form in one or two cases they occupied in portions of the palace. He was therefore able at once to decide that these columns tapered downwards with a considerable diminution of diameter. As for the reason why the columns should be put into position, it would seem that the Cretans, who were the first people they knew of to use them (because they are not found in Egypt), were sufficiently acquainted with the qualities of timber to know that the trunk of a tree, when cut off and utilised, would support an equal weight whether put into the natural position or turned upside down. They also found that when reversed it lasted twice as long, because the rain could not penetrate the outside. There was another reason which was probable. The wooden architraves carried by these columns were rather large, and had to carry cross beams, and therefore as wide a support as possible was needed, given by the increased dimension of the upper diameter. The columns they found at Mycenæ followed in all respects the downward taper of those at Knossos, but there was this great difference, that the one was in wood and the other in stone. From the decorative point of view, and utilised as they were in the Tomb of Agamemnon, there was no reason why they should not follow the same custom; but it was certain that if the column had been an isolated feature it would not have been strong enough to carry any such weight as that required. Therefore, it was, he thought, as a decorative feature attached to the tomb that the column in stone was made to taper downwards. He had one apology to make. He would not have ventured to have made a restoration had he not been absolutely obliged to do something of the sort. He found that there was not a single drawing of any kind which had the slightest resemblance to the actual features now set up in the British Museum. He found that the drawings made by Lord Elgin's artist were quite wrong. They were beautiful drawings, but the details were all wrong, and he was forced to make a restoration himself, to publish in a new edition of a work he had written.

The motion was then carried.

Mr. Cecil Smith, in reply, said he had tried to deal with the question of the tapering downwards of the columns in his paper. Mr. Crace had asked if any traces had been found of the metal linings of the roof. He believed that no portion of the metal had been found at all, but a few of the nails which fastened the decoration had been known to exist. It was only assumption that the decoration was of metal, but there were reasons for supposing it was. Mr. Baldwin Brown asked what was the origin of the decoration of the columns. He believed it extremely likely that the decoration on the column also originated in metal. It was necessary in a climate which was very bad in the winter that wooden columns should be protected as far as possible by a coat of metal, and this spiral decoration was the commonest form of decoration of all Mycenæan decorated work. He thought it very likely that the wooden column, having first been covered with a coating of metal, in imitating the wooden column in stone they also imitated the metal covering of the wood in the stone. He should be glad to assist anyone in the gathering who would care to visit the British Museum and see the restoration.

SATURDAY'S PROCEEDINGS.

Statutory Qualification for Architects.

On Saturday members of the Congress met at the Grafton-street Galleries, there being no meeting at the Institute premises. The subject under discussion was "A Statutory Qualification for Architects," and the chair was taken by Professor Clason (Sweden), and Mr. E. T. Hall was the English Chairman. The Secretaries were Mr. J. T. Cackett (Northern Architectural Association) and Mr. E. Chujo (Japan).

Five papers on the subject had been prepared, the following being abstracts:—

Mr. J. S. Archibald (architect, Montreal, Quebec) said that the subject was a delicate one for the profession to discuss, as motives can be so misrepresented; but for want of advocates outside the profession all the necessary agitation must come from within. The charge has been made that it is only another species of "trades unionism," but on consideration it will be found that the principles underlying the formation of "trades unions" are wholly different from those which actuate us. The former is purely a movement to regulate the compensation and earning powers of the individual, whilst the latter is a movement to raise the standard of professional practice and to safeguard public interests.

Generally speaking, there are two sides to architecture, viz., the æsthetic and the utilitarian. As regards the latter, especially in its constructional aspect, there can be no difference of opinion as to the necessity for the most careful examination before being permitted to design and erect buildings. The object of an architect's labour is to prepare, generally speaking, for habitation by humanity. Human life has always been looked upon as valuable beyond price and compensation. It is recognised in the practice of medicine and law, why should it not be recognised in the practice of architecture where requirements are demanded combining science, chemistry, and law?

We are hedged about by legislative enactments which at their root must have emanated from the conviction that the practice of architecture was a responsible one, calling for particular training and study. Architects are compelled to erect buildings under the direct superintendence and dictates of the law. The only inference to draw is that the practice of the profession is of such a nature that the individual cannot throw off all responsibility the moment the contract is complete. The logical sequence would also be that the law would make provision that all who enter into the practice of the profession would be found fully competent to carry out the spirit and dictates of such enactments.

It is obvious that such competence can only be established by a series of examinations. This is not always the most satisfactory method, but for want of a better we needs must adopt it. Such examinations must be all-embracing and wielded by powers beyond the faintest tinge of suspicion, and removed in the public eye from all question of self-interest.

With respect to the æsthetic side of the professional practice the standard of qualification is more difficult to set; but there is a basis which no one should be permitted to evade. We are all influenced to a greater or less extent by our environment. If in such an environment beauty is absent and ugliness predominant, depravity and a low moral condition will usually be found amongst the people. On the other hand, beauty is usually accompanied by refinement, a higher state of civilisation, and, as a rule, a higher moral condition amongst the people. It is therefore incumbent upon our legislators to recognise such influences. Such influences have been recognised from time immemorial. Plato has discussed the question fully in his *Republic*, and even in those days he argued that State superintendence should be extended over sculpture and building "so that they may be prohibited from exhibiting all forms of vice, intemperance, and meanness."

A sense or perception of the beautiful is to be found within the soul of every human being. It should be our pleasure to encourage it at all times, to influence our community with its leaven of goodness, and it should be the duty of the State to recognise such influences and to grant a statutory qualification to prevent influences other than that of the good to be over her people.

The Province of Quebec Associations of

Architects is the pioneer (on the western side of the Atlantic at any rate) of statutory qualification for architects. This law was founded in 1898 as an amendment to the charter of incorporation. It was granted, as it was deemed expedient for the better protection of public interests and in order to enable the public to distinguish between qualified and unqualified architects and to insure a standard of efficiency in the persons practising the profession and for the advancement of the art of architecture. This law reads, "No person can take or make use of the name or title 'architect' unless he is recognised under this Act and as a member of the Association." The machinery is provided for the carrying out of a system of examinations and for the enforcing of the law.

The Title and Diploma of Architect.

M. Louis Bonnier (Paris) read a paper on "The Title and Diploma of Architect," the following being an abstract :—

Science is not an individual possession; it is the result renewed over and over again of acquisitions previously made. If certain more favourably gifted individuals, or those who come upon the scene at the precise moment when an idea which has become mature is disclosed to the world, increase this property all of a sudden, and illuminate their epoch by the radiancy of their intellect, then the regularity of its evolution is so much a necessity that the innovators who see too far are often not understood by their contemporaries. In the same manner reactions only succeed in stopping progress for a short time.

In the region of art, where individuality would explain itself more easily, if some artists of the plastic arts seem sometimes to be able to do without teaching, these exceptions only occur among those who cultivate specially and exclusively one branch of their art, vibrations of light, movements of lines, etc. And even they cannot escape from artistic heredity, from the teachings of their surroundings. Organised societies, therefore, are right to endeavour to transmit and to increase this intellectual wealth, the acquired results, the raw material for future progress. Thus we have, in art as well as in science, methodical teaching.

In architecture, which is at the same time the outcome of art and of science, more than in any other art, teaching is a necessity. Technical teaching, a deep study of the requirements, a reasoned knowledge of the materials, judicious application of the processes, and artistic teaching, grouping of masses, harmony of lines, taste in details.

These two teachings which form a whole can, it is clearly understood, be theoretical only. They cannot be separated without giving incomplete results—either draughtsmen or builders, but not architects. Not architects : that is to say, not artists, whose mind, formed of logical ideas and of decorative feelings, is ready to underhtake any studies, any adaptations, any kind of progress, able to choose from among the several solutions proper to satisfy the engineer, the best—that is to say, the most harmonious, the most beautiful. If the teaching is necessary for the transmission of the acquired results, it cannot be really efficient and useful unless it be accompanied by a sanction pointing out clearly the person to whom, amongst all others, may be entrusted with perfect safety the fortune of private persons and the budget of the State, the health of the individuals and the hygiene of the population, the preservation of the art treasures of a country, the improvement of the comfort of family and social life.

The sanction is the diploma.

The diploma which is the consecration of long scholastic studies, preparing the architect for all eventualities, cannot and must not be obligatory in a free country; it is only an indication and, as it has been rightly called, a powerful presumption of artistic and professional capacity. It naturally corresponds with a want which, for a great number of years, has been puzzling the mind of architects, and which forms part of the programme of every Congress. This want has received full and complete satisfaction in France. The facts are there to prove it—they are evident.

The campaign was started as far back as 1840.

Since that remote period the Central Society of French Architects took the initiative, and during more than twenty years, by means of controversies, reports, and steps, it fought the good fight until the day when, in 1863, M. Eugene Guillaume obtained from the Government the decree instituting the diploma

After a period of modesty and obscurity, during which the first possessors of the diploma, without a bond, without influence, without protection, and treated as intruders, were the object of attacks as furious as they were stupid on the part of short-sighted architects, the architects with a diploma formed an association in 1877.

During a great number of years they struggled only to live, to hold on. Little by little their numbers increased. When they had become 200 the hostilities grew less; when they became 500 they were at last recognised.

There are to-day 750 distributed all over France, at the Institute, in all the great State administrations, in those of the provinces, and of the large towns They constitute special groups in the Colonies and in foreign countries, in Switzerland, in the United States, laureates of the public competitions, propagating, to the best of their endeavours in the general interest and in conformity with their programme, the cult of the high studies of architecture.

In 1912 they will be 1,000.

This striking development and this uncontested prosperity of the diploma in France show what an imperious want was answered by its creation. We are of opinion that, in the interest of all concerned, it is necessary to surround the title of architect with guarantees and to sanction it by means of the diploma.

M. Gaston Trélat (Paris) also contributed a paper. The following are the author's summary and conclusion :—

Diplomas are a good thing in proportion as the studies which they represent magnify and elevate the title of architect to the height which society prescribes in order to understand its aspirations. But they might easily become a cause of deterioration or, what is equivalent, of incapacity to understand anything but the knowledge and applications belonging to a special education. Then a diploma, taken as the criterion of every application of art or of useful knowledge, would be the height of human inanity.

Individual efforts are nowadays more necessary than ever in consequence of the movement that one can remark everywhere, and which is of a nature to raise up initiatives on all sides. As the syntheses of the collective interests it is the duty of States to ensure the free expansion of work, and consequently to oppose everything which might resemble a privilege. At a time when knowledge tends to become more general every day competition ought to be freer than ever. Interests, narrowly understood, often lead men to desire, with selfish blindness, to create small artificial states within the great State which is under the control of the parliamentary delegation. This is a danger to which thinking men have no right to close their eyes. These small artificial states are always causes of disorder in employments. They are calamities both in regard to the development of human intelligence and to the orgnaisation of society. Factitious authorities appear, thanks to these small states, with interests opposed to the collective interest. In their exclusive preoccupations of persons or clans these authorised simulacra could not be equal to the exigencies of contemporary evolution. They are misleading powers which would become obstacles to the requisite rectitude of the efforts which initiatives individually directed would naturally be led to produce.

Conclusion.—When they are confined to being stimulations to work for young people diplomas are an excellent thing. But they would become detestable if they were to trammel the free activity of the technicist in later life.

The field of action is never opened wide enough to the aptitudes that society comprises. The advanced civilisations of Europe are often a cause of weakness in individual production. To understand this one has only to cast one's eyes on younger peoples where

(*Continued on page* 145.)

Illustrations.

COMPETITION DESIGN FOR PEACE PALACE AT THE HAGUE.

WE give this week the design sent in competition for the Peace Palace at the Hague by Messrs. Russell & Cooper.

The following extracts from the report accompanying the design will sufficiently explain the objects kept in view by the authors :—

"The court-house and library are planned as one building, separated internally, with intercommunication on the principal floor at a central point.

The building is treated in a broad manner with the restraint imposed by the small amount of funds at one's disposal. A refined type of Renaissance is chosen as a most befitting expression of the purpose of the edifice. The form the dominant feature takes is an open tower, which bears a harmonious relation to the general mass and grouping.

This tower would serve as a shrine for a monumental statue of Peace, and also as a conspicuous landmark indicating the building."

THE LION GATES, HAMPTON COURT.

THE Lion Gates, opposite the Hampton Court entrance to the Chestnut Avenue, Bushey Park, were designed by Sir Christopher Wren in his original plan for the laying-out of the Royal gardens. The idea intended was that they should form the entrance to a carriage drive leading from the avenue straight up to the palace.

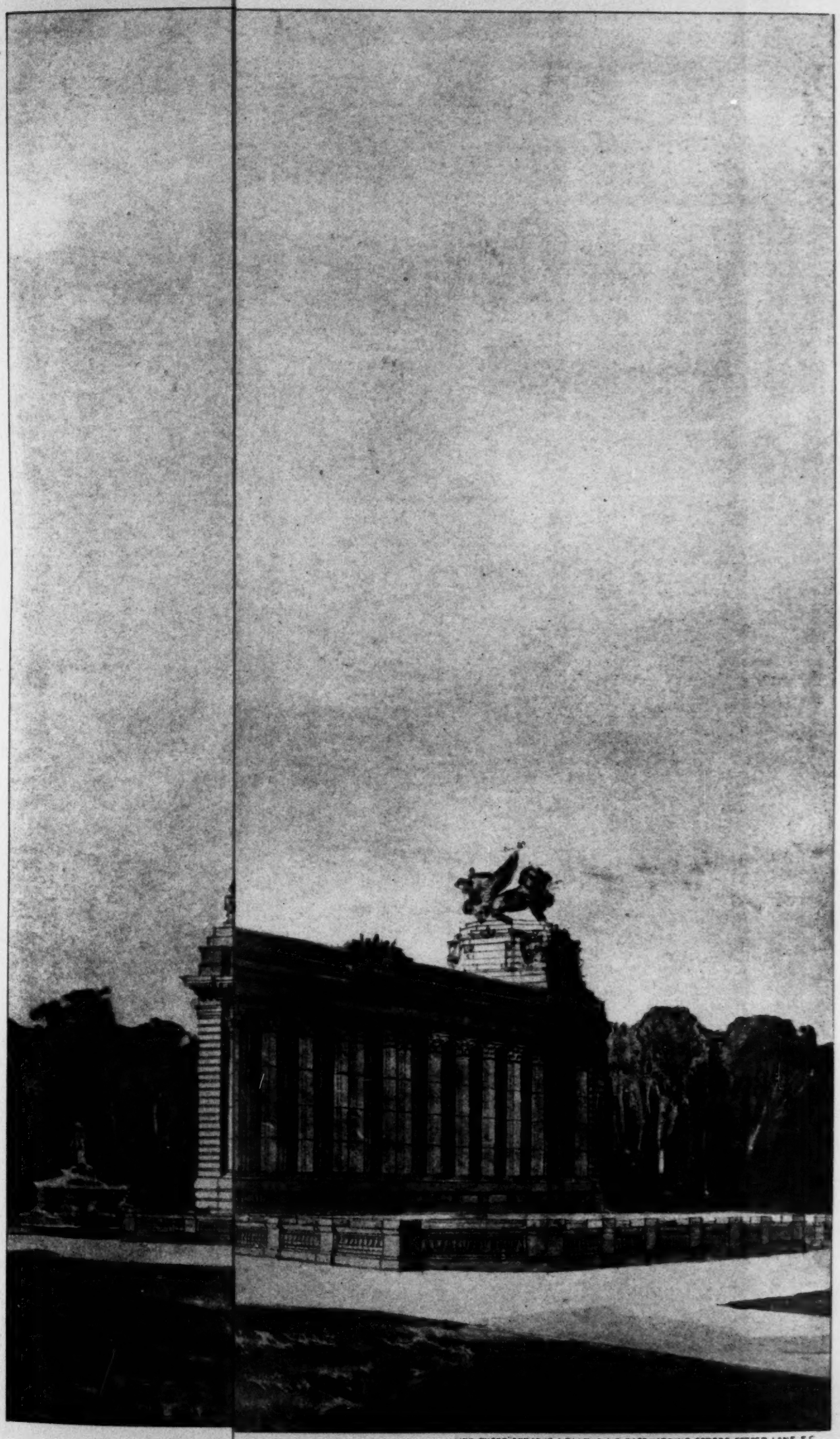
The wrought-iron gates themselves consist of a large central gate to admit carriages, and two smaller ones for the use of pedestrians on either side, the whole flanked by massive stone piers. The ironwork was most probably designed by the Frenchman, Jean Tijon, who was engaged on so much of the wrought-iron work in the palace grounds, including the beautiful screens facing the river; the stone piers being attributed to Wren.

The drawing is by Mr. Arthur F. E. Poley.

Archæological Societies.

BRITISH ARCHÆOLOGICAL ASSOCIATION.—The Association will this year hold its Congress at Nottingham, from July 25 to July 31. On Wednesday, the 25th, will be the opening of the Congress at the Exchange at 2.30, where the members will be welcomed by the Mayor, and then proceed in carriages to St. Mary's Church and to St. Peter's; visiting also the Castle, the Municipal Art Museum, and the site of the Norman and Edwardian buildings. In the evening a paper will be read by the President, Mr. Charles E. Keyser, on "Norman Architecture in the County of Nottingham." On Thursday, the 26th, Rufford Abbey will be visited, and in the evening there will be a paper by Mr. I. Chalkley Gould on "Some Nottinghamshire Strongholds." On the 27th there will be a visit to Newark and the Church of St. Mary Magdalen; to Egmanton Church and the moated mound adjoining; Laxton Church, with the Everingham monuments, and the best earthwork remains of the Norman type in the county. In the evening a paper by Mr. R. H. Forster on "Margidunum," and another on "Earthworks of the Moated Mound Type," by Dr. T. Davies Pryce. On the 28th, Newark Castle, the death-place of King John; Hawton Church, and Southwell Cathedral. On the 30th, visits to Ault Hucknall Church, Hardwick Hall, Bolsover Castle, and Mansfield Church; in the evening, a paper by Mr. J. G. N. Clift, Joint Hon. Secretary, on "The Walls of Nottingham." On the 31st, visits to Bottesford Church and the Village Cross.

CHURCH MISSION-ROOM, PLATT BRIDGE.—The foundation-stone of a new Church of England mission-room at Platt Bridge, was laid recently by Mr. J. C. Eckersley, M.A., J.P. The building is being erected on a piece of land which forms part of the vicarage grounds in Victoria-road. The room will accommodate a congregation of about 200. The architects of the new building are Messrs. H. Wills & Son, and the builders and contractors Messrs. H. & F. Lomax, of Platt Bridge.



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COOPER.

Illustrations.

COMPETITION DESIGN FOR PEACE PALACE AT THE HAGUE.

WE give this week the design sent in competition for the Peace Palace at the Hague by Messrs. Russell & Cooper.

The following extracts from the report accompanying the design will sufficiently explain the objects kept in view by the authors:—

"The court-house and library are planned as one building, separated internally, with intercommunication on the principal floor at a central point.

The building is treated in a broad manner with the restraint imposed by the small amount of funds at one's disposal. A refined type of Renaissance is chosen as a most befitting expression of the purpose of the edifice. The form the dominant feature takes is an open tower, which bears a harmonious relation to the general mass and grouping.

This tower would serve as a shrine for a monumental statue of Peace, and also as a conspicuous landmark indicating the building."

THE LION GATES, HAMPTON COURT.

THE Lion Gates, opposite the Hampton Court entrance to the Chestnut Avenue, Bushey Park, were designed by Sir Christopher Wren in his original plan for the laying-out of the Royal gardens. The idea intended was that they should form the entrance to a carriage drive leading from the avenue straight up to the palace.

The wrought-iron gates themselves consist of a large central gate to admit carriages, and two smaller ones for the use of pedestrians on either side, the whole flanked by massive stone piers. The ironwork was most probably designed by the Frenchman, Jean Tijon, who was engaged on so much of the wrought-iron work in the palace grounds, including the beautiful screens facing the river; the stone piers being attributed to Wren.

The drawing is by Mr. Arthur F. E. Poley.

Archæological Societies.

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COMPETITION DESIGN FOR

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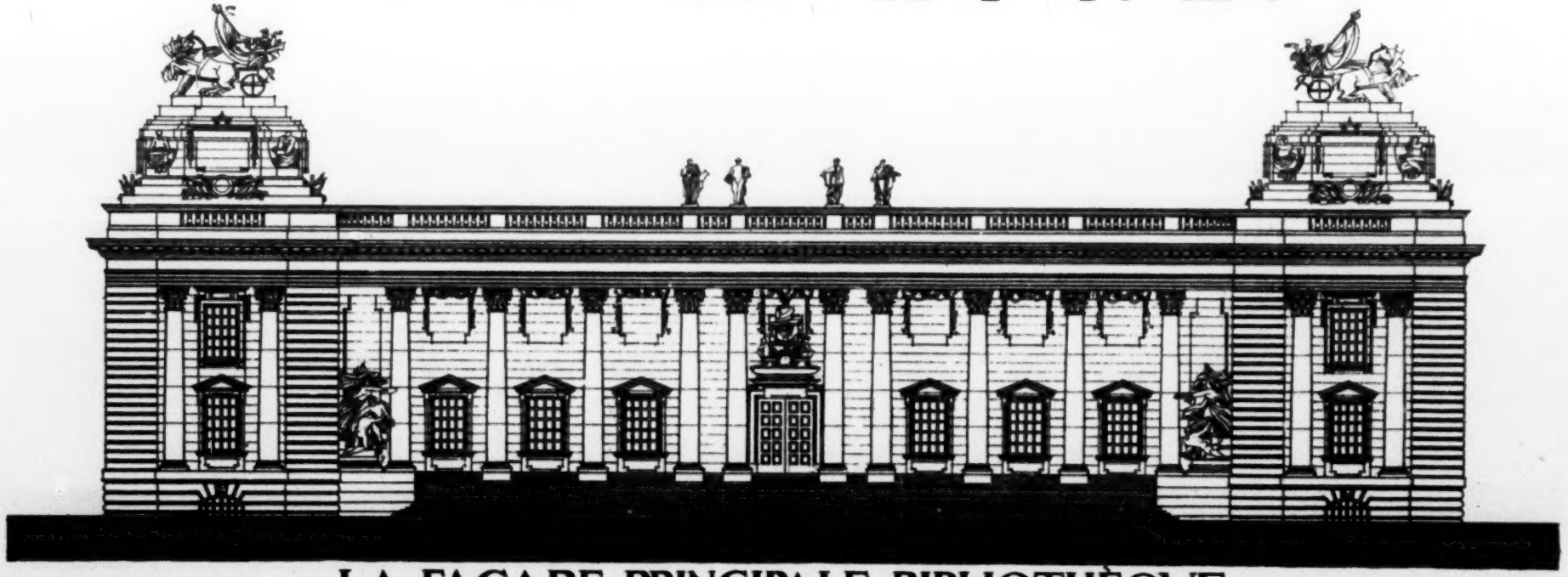
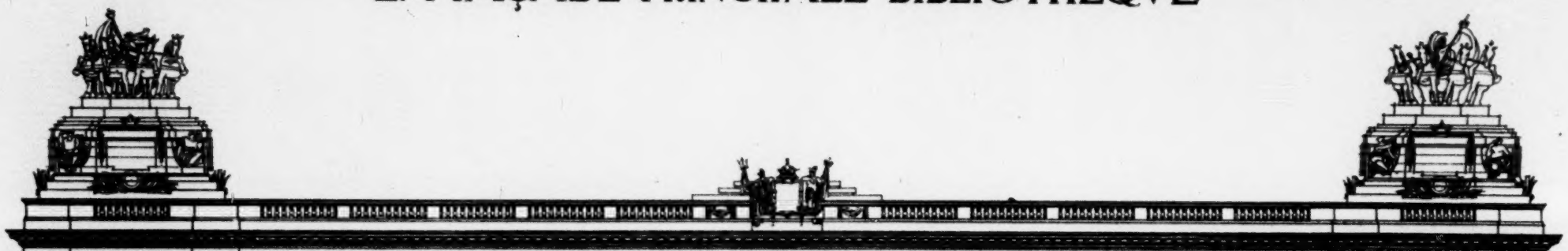
OR THE PEACE PALACE AT THE HAGUE.—By Messrs. Russell & Cooper.

PERSPECTIVE VIEW.

PALAIS DE LA PAIX



LA FAÇADE PRINCIPALE·BIBLIOTHÈQVE



LES FAÇADES DES DEVX FLANCS

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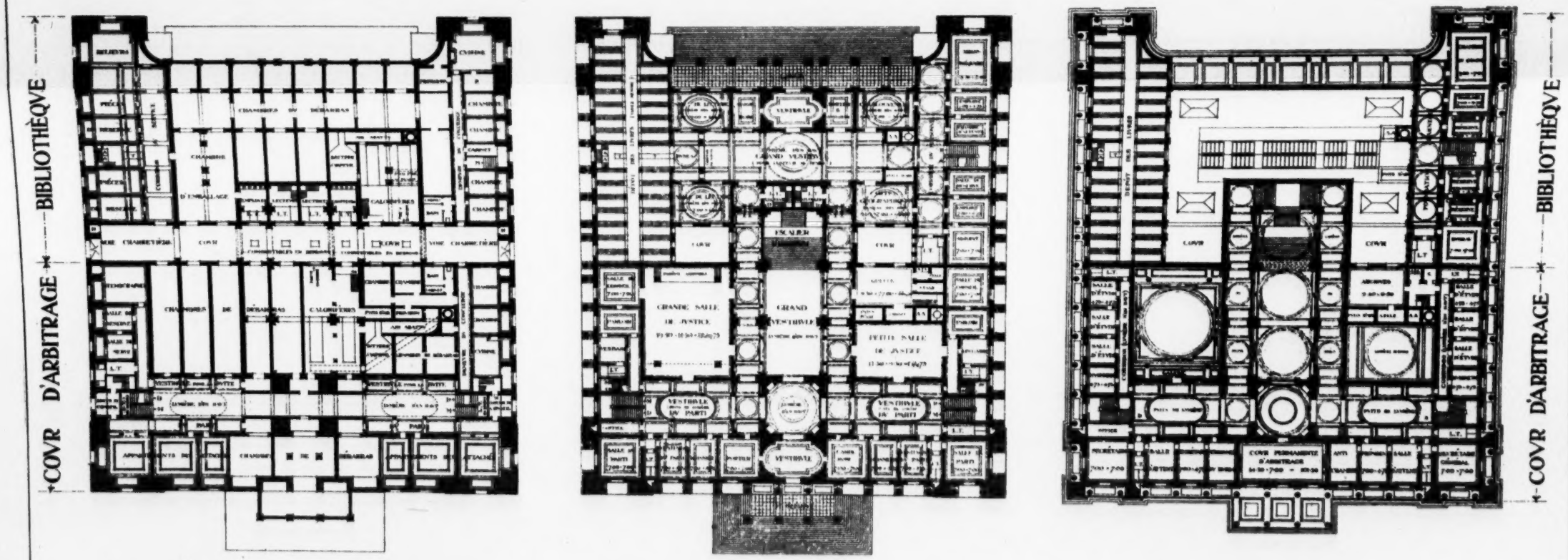

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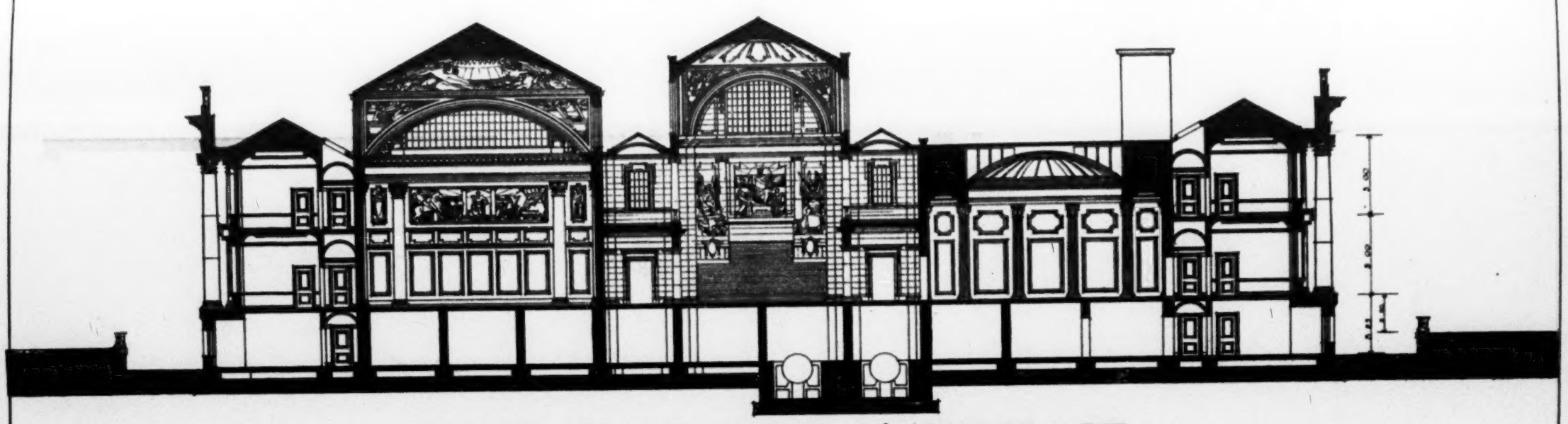
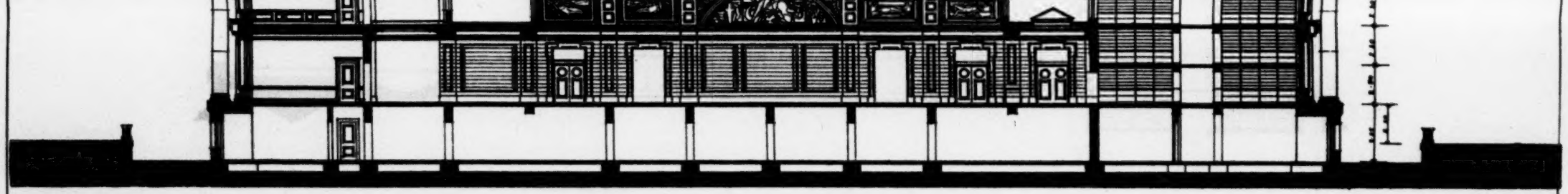
COMPETITION DESIGN FOR THE PEACE PALACE AT THE HAGUE.—By Messrs. Russell & Cooper.

ELEVATIONS AND PLANS.

PALAIS DE LA PAIX

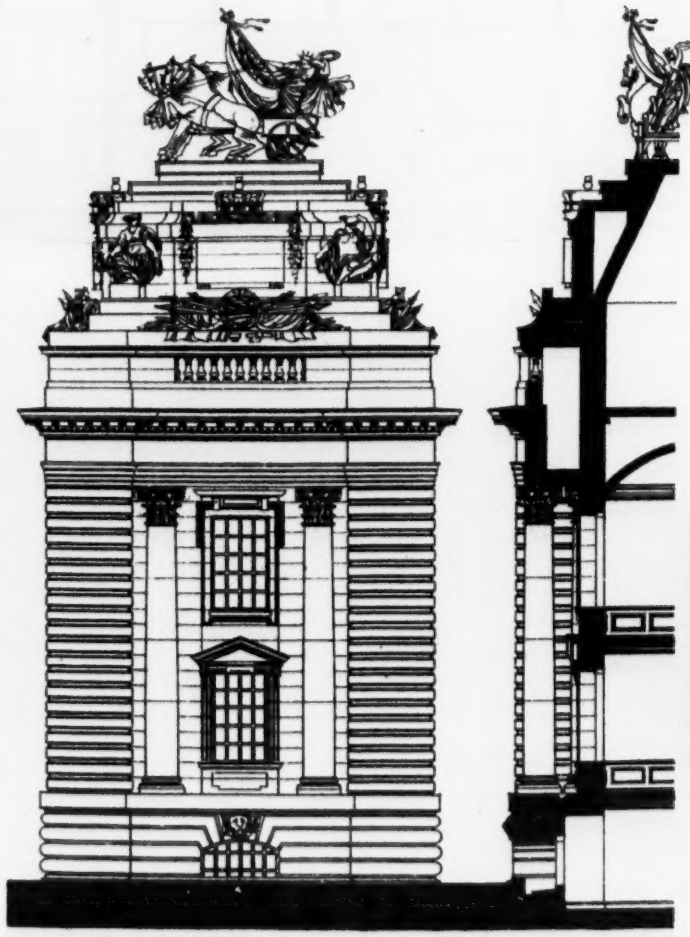


COVPE DE LA COVR D'ARBITRAGE

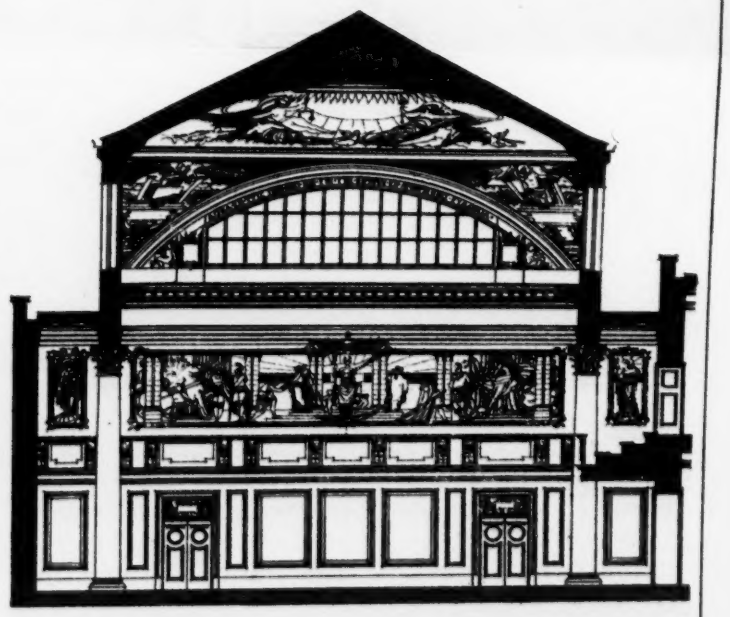


COVPE DE LA BIBLIOTHÈQVE

L'ESCALIER D'HONNEVR



LA TRAVÉE DE LA FACADE



LA GRANDE SALLE DE JVSTICE

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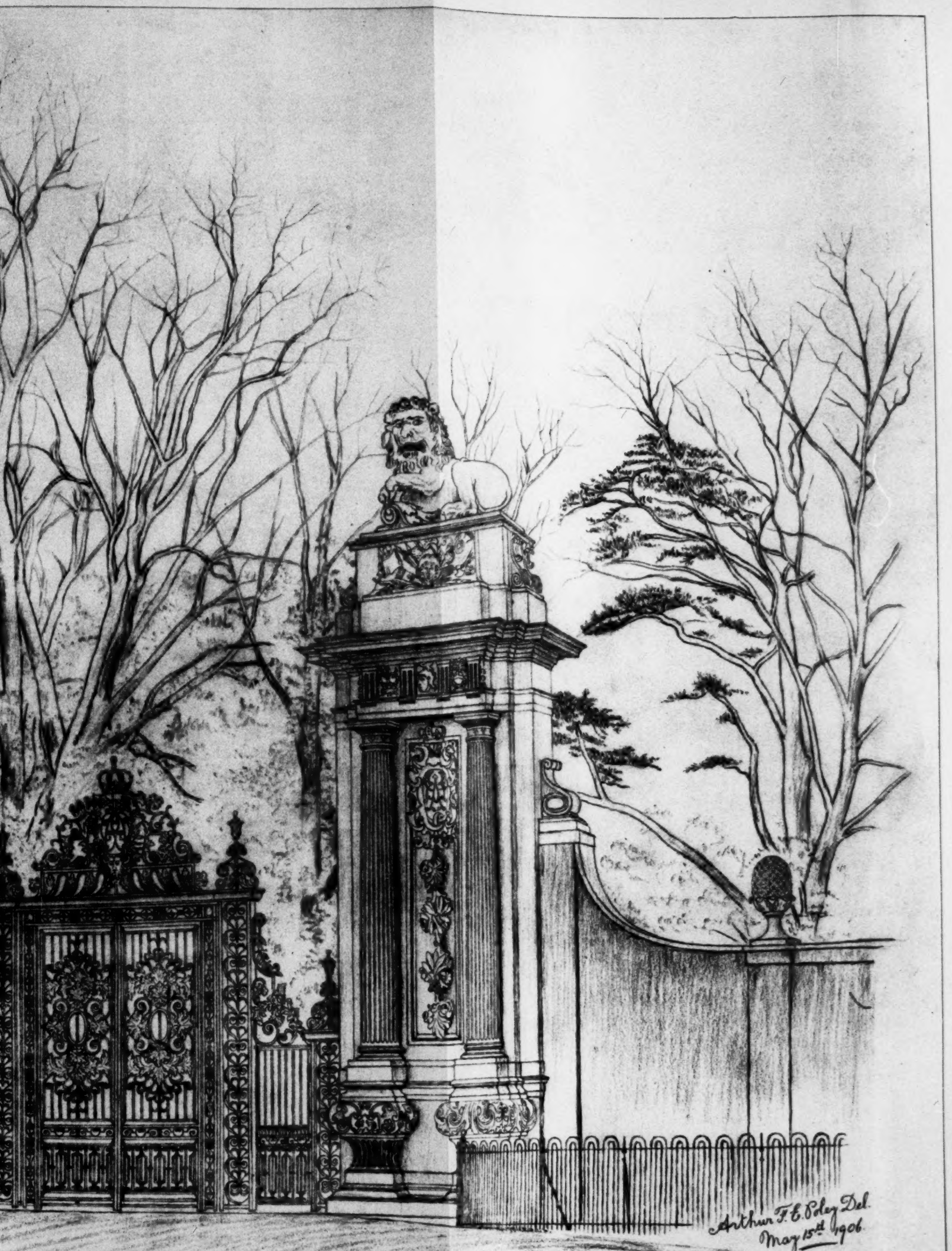
COMPETITION DESIGN FOR THE PEACE PALACE AT THE HAGUE.—By Messrs. Russell & Cooper

SECTIONS AND DETAILS.

THE LION GATES, HAMPT



INK PHOTO SPRAGUE & C°LTD 4 & 5 EAST HARDING STREET FETTER LANE E.C.

AMPTON COURT.—From a Drawing by Mr. Arthur F. E. Poley.

THE INTERNATIONAL CONGRESS OF ARCHITECTS.

(*Continued from page* 144.)

the social organisation encourages individual worth, which might serve as examples to us.

I repeat this opinion: though the diploma is for the student a verification of his efforts, it becomes eventually an incident without influence on the career of a man of worth. One must go forward without ever looking behind.

Herr Otto Wagner (Imperial and Royal Superintendent of Works, Professor of the Imperial and Royal Academy of the Plastic Arts) read a paper on behalf of the Society of Austrian Architects. The following is an abstract of the paper:—

Legal Authorisation of the Architects.—On this point we beg to make the following observations. On all sides the endeavour of artists to favour the progress of art is strongly prominent. Nay, they are, in fact, the only promoters of art, since the public, entirely absorbed as it is in the acquirement of riches and in politics, has lost almost every sentiment for art. It can, therefore, be understood that the desire makes itself manifest to protect art, and it is thought that this end will be obtained by giving the title of architect a legal recognition.

This legal backing, as has been shown before, is not possible. But neither is it necessary at all, because it is not the question of admitting legally recognised architects to the construction of artistic buildings, but that only the very best be produced. If, therefore, the State, the country, or a city, or its administrations, respectively make use of a senate of art, there is in this way created an artistic control from which it can best be hoped that the desired goal will be reached.

If the architect is given a legal authorisation, it cannot, therefore, be a question of the artistic capacity of the architect, but an official control can only be admitted with regard to his professional quality. But this control is very easy, since all authorities have their well-organised Boards of Works which can exercise control when giving their consent for the construction.

The legal process must therefore consist in that the architect by his signature accepts the responsibility for the plans made by him, and that he covers himself by the contractors of the various parts of the work, who have in their turn to produce the calculations made and revised by them.

The answer to Question V. must therefore be as follows:—

The architect has the right to construct any building by the plans made and revised by him if these have been passed by the artistic and technical control.

Mr. Robert Walker (Cork) also read a paper, of which the following is an abstract:

In calling the attention of the Congress to Subject No. V. on the programme, it will be convenient to say here that there is parliamentary precedent to be found in the Statute Books of the House in which Registration Bills have passed into Acts with a view to conserving the interests of the professions and the public in their relations each to the other.

Without giving a long list of the professions so dealt with, it will be sufficient to name the cases of solicitors, barristers, physicians, and surgeons. The Medical Act is apposite to the requirements of the Architects Education and Registration Bill.

The words "statutory qualification for architects" are consonant with the interests and well-being of the communities and peoples throughout His Majesty's vast jurisdiction, from the peasant in his cottage to the dwellers in royal palaces.

It will be seen, therefore, that this subject is in touch with the interests of the whole community, and is so far-reaching in its common interests that it extends to all the countries of the earth.

It is pre-eminently a subject of international interest, and is fittingly placed on the programme of this Congress.

The word "architect" is derived from two Greek words, ἀρχός and τέκτων, and signifies "chief constructor," which would appear to involve complete control and guidance, from the inception of the design to its final completion in fitness, strength, and beauty.

The word "qualification" signifies that the architect (or the chief constructor) should be duly qualified to undertake those responsible duties by the acquisition of an irreducible minimum of general and expert knowledge and technical education and equipment, in accordance with a curriculum laid down by the General Council, when appointed by Parliament under the stipulations of a Bill which when it passes becomes law, making compulsory "Statutory Qualification for Architects" by placing the Bill on the Statute Book as the "Architects Education and Registration Act."

The necessity for such an Act appears to be conceded generally owing to the consideration that has been given to the subject during the past twenty years.

The members of recognised architectural bodies should be registered on their proving their membership or on verified lists being sent to the Registrar by the secretaries of those bodies.

The stumbling-block which has chiefly and ostensibly retarded the progress of such a measure for all those years, coupled with apathy, indifference, and jealousies, is precisely the same as that which blocked the Medical Act for thirty years, from 1828 to 1858, namely, that Parliament declined to pass a measure which made no provision for the vested interests of the unqualified men who assumed the functions of medical practitioners, and were accepted by the public in ignorance of their want of expert and technical equipment. It may be possible to come to some arrangement on this matter by way of compromise with the Select Parliamentary Committee.

A time-limit of, say, five years may be agreed upon, during which practitioners could prove that they were in practice prior to the passing of the measure.

There appears to be no doubt but that the trend of opinion is in the direction of obtaining statutory qualification for architects, which will protect the members of the profession and the public, in the prescribed parliamentary form of an Education and Registration Act having the short title "Architects Act."

The sooner such a measure is placed on the Statute Book the sooner will the evil complained of disappear. It will not impair the status and privileges or invade the membership of existing architectural bodies.

The placing of the names of persons having what the Legislature denominates vested rights does not confer the right to membership in any of the existing bodies.

"Statutory qualifications" are qualifications enjoined and required by a curriculum, prepared by a competent authority, made compulsory by statute, and tests applied by competent examining bodies whose functions commence when the competent teaching bodies have completed their work; the results of the tests are then recorded and published in a book called the Register.

When the Bill reaches the Committee stage memorialists in favour of it and petitioners against it would be heard at length, when clauses may be amended, struck out, or new clauses inserted by agreement. Should the Committee find that the preamble was proved, it would be sent back by them to the House, and if passed it would then become law and be placed on the Statute Book as the "Architects Act."

Want of qualification on the part of persons employed as architects may result in injury to life or health, discomfort, pecuniary loss, law suits, embarrassments, and much loss and damage without a remedy.

Any means that can be devised even to tend towards guarding the public against the evils attendant on incompetency will be hailed with satisfaction by the profession and the public alike. Reforms should come from within, and it is clearly the duty of the profession to initiate and work out this movement.

The papers having been read (Mr. G. A. T. Middleton reading Mr. Walker's paper),

M. Augustine Rey (Paris) said that society accused them of imperilling the public health by faulty buildings. The exact contrary was the case. Society was killing them by leaving the profession open to the first-comer. The remarkable Reports to which they had just listened told them so. Mr. Archibald, M. Bonnier, and Mr. Walker had proved it to them. A law dealing with architects was wanted. This law would, in the first place, protect the lay public, and, in the second place, the members of the profession. It was imperative that a minimum examination should teach the public that no one may use the name of architect till he had passed such a minimum examination, involving a high guarantee of ability. But let them, first of all, agree among themselves. Let this all-important question be discussed at several meetings during the next Congress two years hence. Once all societies of architects combined for the purpose of studying this matter they would have made the greatest and most important advance, and one which would save the profession from the indifference in which society seemed inclined to leave them.

In answer to an English questioner, M. Bonnier explained that the course of study at the Ecole des Beaux-Arts in Paris may extend over a period of eight years or longer. There are examinations in mathematics, art subjects, etc., etc. The courses of the second or elementary course cover a period of two or three years, and the courses of the first class three to five years. There is an oral examination on the laws relating to building, etc., on professional practice, and other subjects. And this, together with the written examination, secures the diploma given by Government.

Professor Nagy, Hungary, said he was commissioned by the Association of Hungarian Architects to report upon the movement in Hungary in regard to the question. The enormous amount of technical work done in our age and the great development of the arts, had led up to certain undesirable conditions in various countries of the world. Undesirable competition arose between architects and those who were not. The mass of the public were, on matters of architecture, more or less ignorant in all parts of the world. In many nations there was an attempt to protect the architect's interests and the interests of architecture in the same way that the interests of lawyers and others have been protected, and to resort, to a certain degree, to a system of compulsory qualification for architects. The oldest National Congress of Hungarian Architects and Engineers decided to bring forward a motion in favour of the legal recognition of the titles and practice of "architect, engineer, and mechanical engineer," and the Association of Hungarian Engineers and Architects had been commissioned by the Congress to prepare a Bill providing for the compulsory qualification and practice in the different technical branches of these professions. This had been done, and the Bill had been accepted by a majority of the members of that Congress. The measure had since been transferred to the Government, and would, he hoped, soon be brought before Parliament. According to the Bill, the right to practise as architects, engineers, and mechanical engineers and to assume such titles would be reserved to those who had proved their qualification as required by polytechnic and academic studies; only qualified architects would be allowed to act as official experts and designers of buildings of importance. All that was proposed to be done was to constitute what was called a technical chamber; that was to say, a legally constituted union of architects, engineers, and mechanical engineers, and the Bill, with proper explanations, had been printed.

Mr. G. Hubbard said that the question of registration was one which had become of increasing importance to architects in England. There was no doubt that they were all anxious to do the best that they could to raise the status of the profession, and it was only a question as to the best means that should be adopted. It had been suggested that it was the duty of the architects to teach the public. No doubt that might be the duty of architects, but, if he might suggest it, he thought that their first duty was to teach themselves before they could be in a position to teach the public. At the present time the doors of the profession were thrown wide open; all might enter, and a formidable adversary had entered the ranks, *i.e.*, the limited liability companies. The large art decorators came in, and by their system of advertisement—a system which was precluded to the legitimate architect—they were in a better position than architects to "educate" the public. Their view of the whole question

was absolutely opposed to the view of qualified architects. They catered to supply the public with what they wanted, and whether the public wanted good or bad architecture they were ready to supply it, and would continue to supply it unless architects took some active means to keep them out of the profession. It was one of those cases in which they must all work together in order to protect themselves and raise the status of the whole profession.

Mr. R. Walker (of Cork) said he had listened with great interest to the observations which had fallen from different speakers, and he was greatly impressed with their remarks. His trouble was this: What was going to come out of the Congress? He regarded congresses which had come and gone lately as one of the biggest factors in uniting all parts of the earth together, and he had a great feeling of fraternity towards them. The people who attended congresses came with an open mind and they were prepared to extend to each other what knowledge they possessed for the common good. Some most pertinent remarks on the subject of registration had been made, and the last speaker made some sound observations as to the matter. What had the Congress done for architecture? He recognised that hands had crossed oceans and continents, and the frontier question did not affect them as architects. He was glad to hear what had been done in Canada for architects. The Bill was promulgated by civil engineers—civil engineers somehow or other managed to step in before architects and secure all the big plums. Instead of calling this proposed Bill a Registration Bill, he noticed that in the programme it was called a Statutory Qualification for Architects. Do not let them deceive themselves; it was precisely the same thing, and it was to be procured in one and the same way.

Mr. A. North (Tasmania) said he had been instructed by the Royal Victorian Institute of Architects, to which he belonged, to support the proposals made for registration, and in doing so he could not do better than read the instructions which had been given him: "The following *résumé* of the work of the R.V.I.A. is compiled by resolution of the council of the Institute. I am directed to forward a copy to you, as a member of the Institute, in order that, when the respective subjects are dealt with in the Congress, the action of the Institute in its endeavours (*a*) to place the members of the profession upon a legal status by registration, (*b*) to further the education of the architect by university and other teaching, and (*c*) to modernise the building regulations of our cities, in order that iron, steel, and other modern construction may be adopted.

Registration.—The accompanying draft outline Bill was prepared in 1891 by the R.V.I.A. and the general body of practitioners. It was submitted to the Legislative Council in 1892, but was then rejected. It has not been re-introduced since. The need of registration, however, remains as great as ever. During the past fourteen years registration has been made compulsory in many of the professions, and before long it will be necessary for the Institute to move again in this direction, both in the interests of the public and the profession. The demand for registration is shared by all competent members of the profession, whether members of the R.V.I.A. or not.

Education.—In addition to awarding prizes for the best work done yearly in the building construction and architectural classes at the Working Men's College, Melbourne, the council arranges annually R.V.I.A. competitions for subjects in design, measured work, and sketching, and awards medals and substantial money prizes and certificates for the best work in each division. This year, however, the new regulations for Diploma of Architecture at the Melbourne University have been issued (a copy being forwarded to you herewith). The scheme was prepared by a joint committee of the Faculty of Engineering at the university and by the council of the R.V.I.A. Mr. A. Henderson (one of our past Presidents) has been appointed lecturer in the subject, and Mr. Percy Oakden (also past President) represents the Institute upon the Faculty of Engineering for 1906. The work is thus directly in touch with the Institute.

Modern Methods of Construction.—In order that modern methods of construction may be applicable to our larger cities, the Institute is (at the request of the Melbourne City Council) preparing a list of suggestions for improving the building by-laws of the city. Copies of the building regulations of the principal cites in Great Britain and America have been courteously forwarded on application for our guidance, and the first interim report was forwarded to the City Council last September. We ask that provision be made in the revised by-laws for the erection of iron and steel structures, and for buildings composed wholly or in part of reinforced concrete. We further request that in the new regulations a clause be inserted whereby any method of construction in use in the cities referred to in an annexed schedule, although such construction be not provided for in the Melbourne Building Regulations, may, with the sanction of the official referees, be adopted in Melbourne. It will necessarily be some time before the amendment of the proposed regulations can be effected, as the work of revision is by no means an easy task.—Signed, John Nittle, Hon. Secretary." After what had been said by the readers of the papers and others, he need not add much. Although they had failed as yet to obtain legislation in Australia on the subject of registration, they had been successful in obtaining a Chair of Architecture at the Melbourne University, which was an official recognition by the Government of architecture. So far as testimony was concerned, the Victorian Institute was absolutely unanimously in favour of registration.

Mr. Ellis Marsland said he wished to enter a friendly protest that a subject of this importance should have been relegated to the last day of the Congress, when a counter-attraction had been provided—an arrangement which was not made on any other morning of the week. This subject was of much greater importance than the subject discussed on Thursday, *i.e.*, the education of the public, as until they had educated the architect it was quite impossible to educate the public. If they endeavoured to educate the public at the present time, he was quite sure they would be in the position of the blind leading the blind, or they would be divided into two parts, and they would hear that Codling was the friend, not Short. The great point in this matter of the registration of architects, or the statutory qualification of architects—they were both identical—was public confidence. They must secure public confidence, which at the present time was wanting. They found men boasting that they could do without architects—not men unable to afford architects, but men who were in a high position in the country. They boasted that they could do without architects, and a case occurred recently when a party of architects went to a noble lord's residence. Unfortunately for the noble lord, he did not know that they were architects, and in showing them what he had done and what additions he had made to his building, he made the proud boast that he had done without architects. That showed that there was a certain amount of public confidence in the architect. But few people knew what the architect was, and they did not care very much. Architects wanted to counteract this tendency and feeling by making it compulsory for any architect or anyone who practises the profession of architecture to be properly qualified before he does so. What had been said in favour of the subject had been said over and over again, and he desired to move the following resolution, *i.e.*: "That it is desirable in the interests of the public and the profession of architecture that all practitioners should have a statutory qualification."

Mr. W. W. Thomas seconded.

Mr. C. A. Cowper (Melbourne) said he entirely approved of the resolution. As the delegate of the Royal Victoria Institute of Architects of Australia he had been instructed to support any such resolution. As they had heard from Mr. North, a Bill had been introduced into the Australian Parliament some time ago, and a smaller Bill would shortly be introduced with a view to bringing about compulsory registration. When the syllabus of the Congress reached them in Australia, they were glad to see that this subject was to be discussed, and he could assure the meeting that his Institute would be very glad indeed to hear that this resolution was carried, if it should be carried. It would very much strengthen their hands in bringing about what they believed was a very necessary reform—a reform which would do both the profession and the public a great deal of good.

Mr. G. A. T. Middleton said that as one who, like Mr. Walker, had taken a great interest and part in the matter for full twenty years, he should like to express his extreme pleasure to hear that morning the unanimous expression of opinion on the matter. There had not been a single dissentient voice from any country represented there. All were agreed that there should be a statutory qualification for architects. It might be brought about in one country by one means and in another country by another, but the principle remained the same in each case, and it was the principle they were there to affirm that morning, and he hoped that they would do so.

Mr. D. Morgan (Cardiff) said that as one who came from South Wales and Monmouthshire he was entirely in sympathy with the proposition made, having to come into competition, as he did, with an outfitter, who was developing the profession of architecture, and getting the full percentage. That was proof that in that part of the country they needed legislation very badly.

Mr. F. G. Green (Cape Colony) said that as delegate from Cape Colony he had very great pleasure in supporting the motion. Some of them might have noticed that at the opening of the new City Hall and Municipal Buildings at Cape Town he brought the matter forward, referring also to the question of the education of the public also. He thought the public were to a large extent to blame. Very often gentlemen about to build houses left it to the ladies, and often accompanied them to certain districts to look at houses already erected. They liked this or that, but they did not inquire who the architect was, but who was the builder, and they went to the builder and asked him to erect a building like the one they had seen and admired. In addition to registration of architects, there should be some security against the multiplication of buildings done by an architect in the first place and then copied by builders afterwards.

The Chairman said he did not wish to curtail discussion, but a late hour had been reached, and he should like to know what the pleasure of the meeting was as to continuing the discussion or not. He would put the question to the meeting.

It having been agreed to discontinue the discussion,

The Chairman said he was placed in a difficulty as to the resolution. There had been several gentlemen present who had come prepared to speak against such a resolution, but as the time had gone on they had departed. Moreover, the subject of the statutory qualification of architects was an abstract one, and if the question were, is it desirable in the interests of architecture all over the world? it could be dealt with. But, as far as he understood, the papers read dealt with the question of the statutory qualification of English architects, which was not the subject before them.

Mr. Walker said that the whole of his paper was written at short notice for the purpose of submitting his views to the Congress, and the observations he made afterwards were for the purpose of uniting the various countries represented.

Several members called upon the Chairman to put the resolution.

The Chairman said he was in control of the meeting, and he should put the resolution in due time, but for the time being he wished to address the meeting. Mr. Walker's paper was all about the procedure by which the Bill should go to the British Parliament, and the subject for discussion was whether the statutory qualification for architects would be desirable for all countries, not for England alone. They had had a discussion dealing with the application of such a qualification to England, and a comparison had been made between the Diploma of Architecture in France; but that diploma, which it was a great honour to hold, did not bar other people from practising in architecture. They had heard that the architects of Hungary had decided to put forward a Bill, but it had not yet passed, and therefore there was no evidence as to the working of such a measure. M. Rey also made a speech on the subject, in which he said, not that statutory qualification for architects was essential to the practice of architecture, but that it was desirable to show that men practising

architecture had a minimum of knowledge. That was a good thing, though a very different thing. That was the difference, and it was an essential difference. As they all knew, the subject had, from the English standpoint, been gone into thoroughly by a committee of the R.I.B.A. He did not want to worry the International Congress with the matter, but he would point out that the investigation of that committee was a very thorough one, taken part in by eminent men all over the country. What was said was this: If statutory qualification were found to be desirable years hence, there was no reason against resorting to it then; but in the meantime it was desirable to try the method of the French diploma first. He was bound to put the resolution, but he suggested that the phraseology be varied so as to refer to the public of all nations, seeing that the present was an international congress. It was an impropriety to ask an international congress to agree to such a resolution applying to England alone.

Several members remarked that it did not say so.

Mr. Walker:—It is evidently intended to mean all the countries represented.

The Chairman:—That is what it should do.

It being understood that the resolution should apply to all the countries represented, a vote was taken, and the chairman declared the motion carried.

The Late Lady Curzon.

Mr. E. W. Fritchley moved, and Mr. Chujo seconded, the following resolution, which was carried in silence:—

"Resolved, that the secretary be requested to convey to Lord Curzon the sympathy of this Congress of Architects at the sad bereavement he has had in the death of Lady Curzon. This Congress feels it owes a debt of gratitude to Lord and the late Lady Curzon for their efforts in the preservation of ancient architectural monuments of Indian arts and manufactures appertaining to our profession."

On the motion of Mr. Hubbard, seconded by Mr. Walker, a vote of thanks was accorded to the Chairman for presiding, and, the Chairman having replied, the meeting terminated.

Visit to Greenwich.

A party numbering about 300, including a large proportion of foreign members, visited Greenwich Hospital in the afternoon. They were received by the Resident Architect, Mr. A. L. Perfect, C.E., and, after a short description of the buildings and their history had been given by Mr. Edgar A. Hawkins, A.R.I.B.A., the visitors were conducted by these gentlemen, together with Messrs. W. Arthur Webb, F. Dare Clapham, and H. Tanner, jun., AA.R.I.B.A., to all the most interesting parts of the buildings. Great interest was shown in the original drawings by Wren, Stuart, John Webb, and Yenn, some of which had never before been shown to the public. Tea was served at the Ship, and the party returned to London by steamer.

The Banquet.

The farewell banquet was held in the Victoria Rooms, Hotel Cecil, Strand, in the evening, Mr. John Belcher, A.R.A., presiding.

There were also present:—

Tomás G. Acebo
Maurice B. Adams
J. Alard
Francis R. Allen
Louis Ambler
George M. Anderson
Mrs. Lary Anderson
R. J. Angel
Señor Arbos y Tremanti
J. S. Archibald
Maurice Audouin
J. T. Baillie
F. G. Baker
F. C. Baldwin
Mrs. Baldwin
R. S. Balfour
James Barbour
Miss Barbour
H. Barrilliet
C. V. Bartaumieux
A. E. Bartlett
Mrs. Bartlett
J. Bartlett
F. Bartok
L. Beirer
John Belcher
Mrs. Belcher
A. H. Belcher
Mrs. A. H. Belcher
B. Layton Bennett
Mrs. E. Layton Bennett
L. L. Benois
Mme. Benois
Jules de Berczik
Max Berg
Frau Berg
H. P. Berlage
H. Berlepsch-Valendas
F. Constant Bernard
Paul Bertrand
Alfred Besnard
F. R. Betenson
Fernand Billerey
Hippolyte J. Blanc
Reginald Blomfield
L. Blomme
Detmar Blow
R. Böker
G. Bollag
L. Bonnier
V. Bosco
P. A. Boulting
Prof. Breglia
C. H. Brodie
Mrs. Brodie
H. K. Bromhead
C. W. Brooks
Mrs. Brooks
Mrs. E. C. Brown
Lawton Brown
Mrs. Lawton Brown
B. Brunila
E. H. Bruton
Builder
Charles Buls
Adolf Bürckner
W. H. Burt
C. McArthur Butler
J. T. Cackett
Mrs. Cackett
J. J. Caluwaers
Mme. Caluwaers
M. E. Cannizzaro
Prof. S. H. Capper
H. P. L. Cart
H. T. Cart
Eugène Chastel
Alcide Chaussé
S. Chujo
H. Chatfeild Clarke
Mrs. Chatfeild Clarke
Miss Chatfeild Clarke
Max Clarke
Prof. Clason
M. L. Cloquet
C. Closset
Robert Cochrane
G. F. Collinson
Cav. Coltellacci
Paul Combien
Albert S. Conrad
H. C. Corlette
R. W. H. A. Cosway
J. D. Crace
A. Hunter Crawford
Mrs. Hunter Crawford
Prof. Crespin
Mme. Crespin
H. O. Cresswell
A. W. S. Cross
Percivall Currey
Thomas W. Cutler
Joseph Cuypers
V. Dahlerup
Mme. Dahlerup
Mlle. Dahlerup
Daily Graphic
Daily Mail
Daily Telegraph
Comm. A. D'Andrade
G. F. Blackburne Daniell
Charles Danne
H. Daumet
Mme. Daumet
G. Daumet
L. L. Davoust
Frank Miles Day
Mrs. Day
G. Debrie
H. A. A. Deglane
Mme. Deglane
A. Delpy
F. De Vestel
Mme. De Vestel
Emile De Vreux
Mlle. De Vreux
W. Dewes
B. D. Dick
R. Burns Dick
R. Dircks
I. E. Ditmars
W. H. Dore
Miss M. Douglas
D. G. Driver
Mlle. Dujardin
C. Dunch
J. B. Dunn
Charles Dupuy
W. S. Eames
Bodo Ebhardt
F. E. Pearce Edwards
Luis Elizalde
Robert Elkisch
Sir Wm. Emerson
Lady Emerson
Rudolf S. Enblom
C. W. English
S. Ericson
Emil Faesch
P. Farochon
Henri Favarger
Mrs. Favarger
Bernhard Felisch
Claude W. Ferrier
E. Ferrua
Banister F. Fletcher
W. A. Forsyth
George Fox
A. François
P. M. Fraser
E. W. Fritchley
Alfred Frühwirth
F. Von S. Fürstenburg
Edward Gabriel
F. Galassi
Matt. Garbutt
P. Gatè
J. Giboz
Mme. Giboz
J. S. Gibson
Mrs. Gibson
Albert Giesecke
Cass Gilbert
G. B. Giovenale
Wm. Glover
T. Goecke
P. Gottereau
Alex. Graham
S. W. Grant
Greek Minister
F. G. Green
T. Frank Green
E. Greenop
Mrs. Greenop
B. L. Greenwood
Paul Gaudet
W. Banks Gwyther
J. Hagedorn
Frau Hagedorn
Edwin T. Hall
H. A. Hall
S. H. Hamp
S. C. Hanson
Henry T. Hare
Mrs. Hare
Miss Hare
Georges Harmand
Ewen Harper
Arthur Harrison
Stockdale Harrison
H. Helmer
E. Henard
J. Macintyre Henry
Albert Hielmann
J. T. Hobbs
A. Hoffman
Paul Holsöe
T. R. Hooper
Adolf Höpfner
Jesse Horsfall
Mrs. Horsfall
J. Nixon Horsfield
Mrs. Nixon Horsfield
George Hubbard
Mrs. Hubbard
Paul Hüber
J. Hubert
C. E. Hutchinson
W. B. Ittner
Chacton James
T. E. Lidiard James
J. J. Joass
W. C. Joass
Mrs. Joass
J. Johnson
Mrs. Johnson
Elijah Jones
Mrs. Elijah Jones
Herr Kammerer
Frau Kammerer
Dr. Robert Karch
George A. Karch
Gustave de Keersmaeker
Mrs. Kelley
James T. Kelley
Albert Kelsey
E. A. Kent
W. E. Klemming
J. C. Kofoed
Joseph Kommer
Mme. Kommer
Mlle. Paula Kommer
Mlle. I. Kommer
F. Krah
A. H. Lamont
H. V. Lanchester
Carl Lange
Paul Le Cerc
V. A. Le Foll
Mme. Le Foll
Mlle. Leroyer
W. J. Locke
London News Agency
José T. Lopes
R. S. Lorimer
Mrs. Lorimer
Werner Lundt
Mervyn Macartney
Alex. McGibbon
C. D. Maginnis
C. E. Mallows
Mrs. Mallows
A. L. A. Marcel
Mme. Marcel
A. Marchand
F. W. Marks
Ellis Marsland
Leonard Martin
Mrs. Leonard Martin
C. Mason
A. Metaxas
Mme. Metaxas
F. D. Millet
P. de Miquelerena
John B. Mitchell-Withers
Mrs. Kyrle-Money
J. M. Monro
A. W. Moore
Mrs. Moore
C. Moretti
David Morgan
Mrs. Morgan
Morning Post
Carl Müller
H. Muthesius
Prof. Virgil Nagy
Mme. Nagy
H. P. Nenot
Mlle. Antoinette Nénot
Mlle. Geneviève Nénot
Netherlands Minister
W. Lister Newcombe
Mrs. Newcombe
C. Nizet
Prof. T. Nolan
W. Churchill Noland
Paul Normand
G. Northover
The Duke of Northumberland
C. T. Novi
Rev. P. O'Brien
Joseph Oswald
A. N. Paterson
Mrs. Paterson
E. Harding Payne
H. Dighton Pearson
J. M. Pearson
Herr Peschl
L. Petterson
S. Perkins Pick
H. Pieper
Clément Piernay
A. Piron
W. A. Pite
W. H. Pitman
Count Plunkett
Countess Plunkett
Frau Pössenbacher
H. Pössenbacher
George B. Post
J. M. Poupinel
Mlle. Jeanne Povel
F. A. Powell
Mrs. Powell
W. E. R. Randall, jun.
Mrs. Randall
Cav. P. Rapisarda-Rizzo
Carl Rehorst
Walter Reid
Mrs. Walter Reid
A. Reinberg
Frau Reinberg
F. Reinboth
G. Magni Rem-Picci
Repulles y Vargas
B. Rerrich
Aug. Rey
A. Richard
P. Richard
Alex. Ritchie
Mrs. Ritchie
E. Richter
T. M. Rickman
R. Reim
Moritz Riessbrodt
Hugh Roberts
J. B. Robinson
Percy Robinson
Mrs. Percy Robinson
A. D. Rogers
Mrs. Rogers
J. Rosschaert
Mme. Rosschaert
G. Roussi
Lucien Roy
Mme. Roy
G. Rozet
A. W. Ruddle
Miss Ruddle
E. J. Russell
J. Rust
C. H. Rutan
Miss Eleanor Rutan
E. O. Sachs
Mrs. Sachs
G. Salard
Mme. Salard
R. Salin
A. Salm
J. Sandret
Mme. Sandret
Mlle. Sandret
G. Sandy
Mlle. Schaeffer
B. Schulze
H. Schuster
Frau Schuster
A. H. Scott
J. T. Shardlow
H. Shepherd
Edward Shewbrooks
Mrs. Shewbrooks
B. Priestley Shires
Werner Siebel
E. Siedler
O. Simon
Mme. Simon
John Slater
Mrs. Slater
F. Adams Smith
Mrs. Adams Smith
A. Snyers
J. A. Soares
H. Sonnenthal
Prof. Soubre
A. Soudée
F. Staadt
Mlle. Stålström
Standard
H. Heathcote Statham
Mrs. Statham
John William Stevens
Mrs. Stevens
Leonard Stokes
Mrs. Stokes
Ralph Straus
Dr. J. Stübben
Otto Sturm
G. Süssenguth
Arthur Sykes
T. Szanior
Sir L. Alma-Tadema
Imre Taffer
Sir Henry Tanner
H. Tanner
J. C. Tanner
H. O. Tarbolton
A. A. Tavaststjerna
H. G. Tayler
A. T. Taylor
Sir John Taylor
Prof. Tchijof
I. Tengboin
A. H. Ryan-Tenison
M. Ventura Terra
Mme. Ventura Terra
Carlo, fils Thirion
Chas. Thirion
A. Brumwell Thomas
Miss Thomas
H. Howard Thomson
Times
Miss Tinney
Jules Tixier
G. Oakley Totten, jun.
G. Trélat
H. Inigo Triggs
Percy B. Tubbs
Mrs. Percy Tubbs
Raymond Unwin
Francisco de Urcola
Urioste y Velada
M. H. Vail
Prof. F. Van Dyck
M. Van Ysendyck
J. Verde
Carl Verlohr
C. E. Vosbury
Otto Wagner
Frau Wagner
Benjamin Walker
C. Howard Walker
Mrs. C. Howard Walker
Mrs. Walker
J. W. Walker
A. G. Ware
F. Foster Warner
S. Warwick
Sir Aston Webb
Lady Webb
W. Henry White
Mrs. W. Henry White
G. Wickman
Mme. Wickman
A. Wielemans
E. J. Williams
J. A. Williamson
Frank W. Wills
R. G. Wilson
W. Wonnacott
R. Selden Wornum
Mrs. Wornum
Hans Wright
Mme. Wright
T. C. Yates
Clyde Young
Mrs. Clyde Young
G. P. K. Young.

The Chairman said that the first toast he had the honour of proposing was that of His Majesty the King. The toast was always received by Englishmen with enthusiasm, and he anticipated that on this occasion it would be doubly honoured, for not only had His Majesty accorded the honour of his patronage to the Congress, but he was held in esteem, he believed, by all the guests. His Majesty had done a great deal in the interests of peace, and peace was a necessary condition if the arts were to flourish. Long may we all enjoy the blessing of peace, and may the reign of His Majesty be distinguished by a great advance in the art of architecture.

The toast having been suitably honoured,

The Chairman proposed the toast of "Queen Alexandra, the Prince and Princess of Wales, and the other members of the Royal Family." The Prince of Wales was the honorary President of the Congress, and no doubt, but for his many duties, he would have taken a more active part in the Congress, for all the members of the Royal Family had inherited a love of art, and many of them were accomplished artists.

Sir William Emerson then proposed "The Foreign Delegates," *i.e.*, Professor Otto Wagner (Austria), M. J. J. Caluwaers (Belgium), Etatsraad Vilhelm Dahlerup (Denmark), M. J. T. Cuypers (Holland), M. H. Daumet (France), Dr. Stübben (Germany), M. J. Berczik (Hungary), Signor Cannizzaro (Italy), Mr. S. Chujo (Japan), Senhor Ventura Terra (Portugal), M. Böker (Russia), Señor Don Velasquez Bosco (Spain), M. Gustav Wickman (Sweden), and Mr. George O. Totten, jun. (United States). He said that the toast placed in his hands and which he had the distinguished honour and pleasure to propose was that of the delegates accredited by foreign Governments to attend the Congress. Their presence in England had afforded infinite satisfaction and pleasure. The result of the Congress, the success of which had been

greatly due to their friends from other countries, could be only good, and he meant good in the highest sense of the word; not only good to the architectural profession, for that would be benefiting only a small portion of the community, but good to humanity at large. For this had been a great cosmopolitan meeting, and the questions discussed affect all nations. The wide scope of the discussions could be gathered from a glance at the subjects of the papers. They ranged from the conservation of ancient monuments and the planning and laying out of towns and streets to the statutory qualification of architects, the collaboration with and control by architects of artists and craftsmen, the question of competitions, the ownership of drawings, and to reinforced concrete. All these were questions not only of importance to architects, but affecting the health and happiness, the convenience and comfort, and the pleasure of the public, to whatever country they might belong. It was clear that on the proper laying out, extensions of towns and construction of houses and buildings, the sanitary welfare of the public depends, as well as their convenience and comfort in transit and transport, and also their happiness by the pleasure that artistic structures might convey to their æsthetic sense. All these papers, contributed by various members of the Congress, had been invaluable, and had shown such care, research, and thought in their preparation that it would be invidious to mention any names in particular. They had learned much from their foreign friends, and such meetings impressed both on the public at large and themselves as a profession the necessity to consider architecture not merely as an art, nor merely as a practical and useful science. It must be looked at from both points of view, for without the artistic element it was not architecture, and without a careful consideration of the practical and scientific questions of building, rendering it useful for its particular purpose, however beautiful it might be to the eye, it was a failure. The history, habits, and customs, and the loftiness of the ideals and the civilisation of people who had long passed away, were judged of most accurately in future ages by the remains of their architectural monuments and buildings, which had outlasted those who erected them. Hence the importance of such questions as had been under discussion to all great nations of the earth if they would leave behind them handsome and noble records of their aspirations, endowments, and governments. The Congress had also had the effect of bringing together and creating intimate acquaintance and friendship with many men of many countries, and in relation to the widespread feeling of an universal *entente cordiale*, it must be greatly encouraging to such a sentiment, for we learn by such meetings as these that in every country, no matter what it might be, there were equally thoughtful, unselfish, good, clever, and kindly personalities; in fact we found them one and all what in common English parlance we called "jolly good fellows." It was only to be regretted that, with so many various schemes for our mutual edification and for the entertainment of our visitors during the week, that the time had been far too short for them to see much of the interesting old and historic architectural monuments of the country. Many beautiful old country mansions and halls would have been well worth a visit, and, of course, only a few of our castles, cathedrals, and abbeys could possibly be examined. Still, the best possible had been done to show the most in the shortest time. One thing at least we had as Englishmen learned from our distinguished visitors, and that was how great a charm there was in the felicitous expression of nice feeling and sentiment, as conveyed in their many charming short speeches. The British did not as a rule express themselves with ease and felicity at a moment's notice, whilst our continental friends invariably did so in the happiest manner; nevertheless, the inner feeling of the Britisher was no less warm. He could only repeat it had been a source of the greatest pleasure to see their professional brethren, and he trusted they would take away with them a reciprocal feeling of the truly cordial and warm sentiments of respect and esteem which Englishmen entertain for them, and he was sure he was right in saying that all would endorse his expression of these sentiments.

The toast was received with the greatest enthusiasm, as were the replies of the various delegates.

M. Daumet, in reply, said:—Ladies, gentlemen, and dear colleagues,—We have just spent a memorable week in London. The International Congress of Architects will leave pleasant memories to those who have been fortunate enough to take part in it or in the meetings, even though these latter were somewhat confusing to those who did not possess the gift of tongues. Everything has gone off with perfect courtesy, including both the visits and the excursions so ably organised by our colleagues of the Royal Society of British Architects. What gratitude we owe to its honourable President (Mr. Belcher) and those who aided, and to the amiable and obliging Secretary (Mr. Locke). These gentlemen were able, with perfect understanding, to foresee and provide for everything, and imparted to our stay a special element of cordiality. The inaugural meeting of the Congress in the Guildhall was particularly fine and imposing, and the reception at the Mansion House and Burlington House were most brilliant, while nothing could have been more charming than the excursion to Windsor—that picturesque whole to which each sovereign of Great Britain has for centuries added his share, and in which are stored so many historic remembrances and priceless treasures of architecture and masterpieces of great painters. We shall not soon forget the hours spent in those University towns, where scholarly traditions have produced the lights of science and literature in buildings of characteristic architecture. We remain charmed and subjugated by the variety of aspect presented by halls constructed with such art, by the beauty and poetry of gardens with their lofty trees, which have sheltered so many of the illustrious sons of this fair country. It is impossible to analyse so many and varied impressions without turning our thoughts to those who founded or encouraged such great institutions and the monarchs who have protected them. It remains for the President of the International Congress of Architecture to perform the most agreeable of his functions, and to give thanks with all his heart, on his own behalf and on behalf of his colleagues of every nation, for all the attentions which they have received at the hands of British architects. Gentlemen, I venture to propose a toast to the everlasting concord and friendship between artists, to the architects represented by our delegates, and, finally, to the King and to the august Princes and Princesses of his family, the protectors of our art, which they have deigned to honour by becoming patrons of the International meeting, which comes to a close this evening in a brotherly feast.

The toast was honoured with great enthusiasm.

M. Böker (Russia) said that on behalf of the Russian members of the conference, which had been brought that day to so successful a termination, he begged to offer their most hearty thanks for the warmth and cordiality of the reception which had been accorded them in England, and the memory of which would never fade from their mind. They would have much pleasure in telling their friends in Russia of the kindness that they had met with in England, and of the magnificent productions of architectural art, both ancient and modern, which they had had the pleasure of admiring. It was difficult for him to find words eloquent enough to express the gratitude they felt, but he trusted that their thanks might make up by their depth and sincerity what they lacked in eloquence of expression. He was sure he was rightly interpreting the feeling of the Russian members of the Congress in proposing the very good health of their kind and hospitable English friends.

M. Gustav Wickman, of Sweden, and Mr. Chujo (Japan) both replied in English, and expressed their thanks for the hospitality of the welcome they had received.

Mr. Totten (America) said that on behalf of the delegates of the United States, the members of the American section of the Permanent Committee, and the American architects present, he desired to express to their cousins of Great Britain their sincere appreciation and thanks for all the courtesies which had been so graciously and cordially extended to them. The debt America owed their mother country, from whom they had inherited their customs, literature, laws, and the language, which they were said to speak indifferently well, was almost beyond measure. It was to her, too, they owed the best they had in art, that which came to them by inheritance at the time of George III.—which they called colonial—which they called their own. For the inspiration of their monuments they must ever turn to the glories of Athens and the splendour of Rome; but for the inspiration of that which was most near and dear to their hearts, the home, they must look to good old England, the creator and builder of the home. There had ever been a kindliness between them; with kindliness would come interest, with interest knowledge. Kindliness, interest, knowledge—these were the strands which would form the cord of union that might ever bind them closer and closer together. The next Congress was to be held in Vienna. On behalf of his countrymen he had the honour to extend to them a most cordial and hearty invitation to hold the following one in America. In extending this invitation he begged to assure them that they would endeavour to the utmost to make the meeting equal to and, if it were possible, an even greater success than the great Congress just closing.

Mr. Cass Gilbert, of the American Institute of Architects, said he had to propose the toast of "The Royal Institute of British Architects and its President." He, the representative of the youngest nation, had been selected to lay this tribute of homage at their feet in the country to which they looked for representative government. It had been said in his country that they should have a national art, and the feeling had grown that they should express themselves in their own way; but while they had no apologies to make for what they had done, humble as might be their own opinion of it, they thought the time had not yet come to them to have an art of their own. They had unusual conditions in their practice, and perhaps they met those unusual conditions with a certain ingenuity but with a certain lack of that quality which made a great art. Americans came to Europe to study in France, Germany, Greece, Italy—to all the great nations of the world. They might go as far as Japan for inspiration in that personal art which was so beautiful. Sixty-nine years ago the Royal Institute of British Architects was founded—not then called the Royal Institute—and the time therefore approximated to their time as understood in a little story that he would venture to tell it. One of their landscape artists, Mr. Armstead, having planned a great estate, visited the owner, who said to him: "Mr. Armstead, this is a beautiful thing you have done, but there is one defect in it. That knoll over there is a little barren. What would you do with it?" Mr. Armstead's reply was: "I would plant it with oaks." "But," said the owner, "that is a matter of sixty years." Said Mr. Armstead: "I was looking sixty years ahead." It was that sentiment which inspired them. They were looking sixty years ahead. Those who founded the Institute were looking sixty years ahead, and could they see them that night—in all the glory of that assembly, with all Europe represented there; and see some of the finest men of the Continent and elsewhere who had come to do honour to their profession—he thought their pleasure would be very great. A great Archbishop once said: "There is a time when the truth should be told: let us praise ourselves." He (the speaker) had come to praise the Royal Institute of British Architects. He ventured to hope that the Institute would go forward in the great work it had started. They had laid the foundations in America at least of that tradition of practice which made for equity between man and man. Upon the Statute of the Practice and Charges of American Architects had appeared for twenty-five years the scale adopted by the Royal Institute of British Architects, and that American architects had followed. To the Institute they looked, and he begged them to go forward in their great work—work of which they had seen ample evidence in England. Might the future bear out the promise of the past.

The toast having been enthusiastically agreed to,

Mr. Belcher thanked them on behalf of the Institute. The kind words spoken by Mr.

Gilbert and the way in which he had referred to the Institute, as well as the like references of so many of the delegates who had spoken that evening, made it necessary that he should thank them very sincerely for the expression of their goodwill. It was gratifying to the Institute to know that the Congress had been successful, and that all had derived some pleasure by their visit to London. This was mainly due to Mr. Locke (the Secretary) and the staff of the Institute. As to the Institute, it might interest visitors to know that they showed in a practical way their union with their brother architects of every country by nominating as recipient of the Royal Gold Medal which the King annually bestows upon an architect of eminence, or one who has furthered the art, irrespective of nationality. They also showed their close relation with colleagues everywhere in that they had over sixty honorary and corresponding members—men of great eminence in their respective countries, whose association the Institute was jointly proud of. They might further claim to be a great fraternity, enjoying the same privileges, possessing the same treasures, with hearts filled with the same joy and pride as they contemplated the *chef-d'œuvres* scattered over the world. They might speak different languages, but architecture was a language which every man could read in his own tongue. There were many of these works which they all admired that they must endeavour to protect for the benefit of posterity. He wished to thank them on his own behalf for the consideration and kindness which had been extended to him during the Congress, as well as for all the kind remarks made. It had been a great pleasure to him to preside on this memorable occasion and to find himself surrounded by such distinguished delegates and brother architects, and he should cherish the memory of the honour. He could truly say, on behalf of every British architect, whether members of the Institute or the Allied Societies or others, that their hearts had gone out to their visitors. The ties of brotherhood had been strengthened by the visit, and though they now had to part they were constrained to say *au revoir*.

THE ROYAL INSTITUTE OF BRITISH ARCHITECTS:

MIDSUMMER EXAMINATIONS.

THE Preliminary Examination, qualifying for registration as Probationer R.I.B.A., was held in London and the undermentioned provincial centres on June 12 and 13. Of the 257 candidates admitted, claims for exemption from sitting for the examination were allowed to the number of sixty-three. The remaining 194 candidates were examined, with the following results:—

District.	Number Examined.	Passed.	Relegated.
London	94	66	29
Belfast	11	8	3
Birmingham	2	2	—
Bristol	7	4	3
Cardiff	7	2	5
Glasgow	2	2	—
Leeds	19	12	7
Liverpool	12	8	4
Manchester	15	17	8
Newcastle	14	8	6
	194	129	65

The following passed candidates, with those exempted—numbering altogether 192—have been registered as Probationers:—

R. A. Abbott, Auckland, New Zealand
R. Anderton, Bournemouth.
J. W. Arbuckle, Belfast.
H. K. Armitage, Stockport.
A. F. Ashford, Hoddesdon, Herts
F. R. Austin, Bristol
A. S. Averill, Nottingham
P. Badcock, Leyton
G. Bain, Aberdeen
L. H. Bakes, Idle, Bradford
H. J. L. Barefoot, Wandsworth Common
G. Barlow, Longsight, Manchester
H. T. Barnard, Stroud Green, N.
H. R. H. Bath, Salisbury
O. K. Beattie, Edinburgh
N. S. Benison, London
G. Bennett, Gravesend
J. N. Berry, Huddersfield
J. R. Best, Belfast
S. F. Beston, London
E. A. F. Bisshopp, Ipswich
F. Blackford, Edgbaston
E. R. Blount, near Ryde
H. Bottomley, Stalybridge
W. R. Box, Eastbourne
J. S. Boyd, Crossmyloof, Glasgow
W. T. Broome, Darlinghurst, Sydney
W. A. Brown, North Norbury
J. A. Bruce, North Shields
L. H. Bucknell, Brondesbury
A. Burgess, Liverpool
J. F. Cameron, New Southgate, N.
C. M. Cantley, Ipswich
W. C. Caton, Hove
B. Chaikin, London
J. M. Clarke, Pulwood, Preston
P. L. W. Cloux, Herne Hill
W. H. Coate, Luton
W. F. Cole, Plymouth
W. Coles, Barnsley
W. B. Collier, Blackpool
H. C. Constantine, Acton
S. T. Cook, Plymouth
L. Costley, Monifieth, near Dundee
J. Coulthard, Heads Nook, Carlisle
J. F. Cowper, C.-on-M., Manchester
G. S. Creagh, Gillingham
H. C. Crone, Richmond, Surrey
F. E. Crutchley, Aintree, Liverpool
P. E. Culling, Swaffham
A. B. Dailey, London
F. G. Dawbney, Reading
N. T. Debogory, Bulgaria
W. J. Dickinson, Gateshead-on-Tyne
F. S. Dod, Stoke Newington
A. K. Dodds, Berwick-on-Tweed
G. Doyle, Southville, Bristol
M. Duncan, Liverpool
W. J. Durnford, London
C. G. Eales, Hull
L. R. G. Errington, Regent's Park, N.W.
W. A. R. Fallon, Highbury, N.
C. A. Farey, Hampstead, N.W.
R. W. Fellows, Nottingham
G. A. Fortescue, East Putney, S.W.
B. Fownes, Hastings
J. H. Fulford, West Norwood, S.E.
E. T. Gale, Lee
F. G. Geary, London
E. G. Gisby, Stafford
A. R. Gunn, Leytonstone
H. Halstead, Blackburn
W. H. Hamlyn, Great Sutton, Cheshire
C. H. Hartmann, Weybridge
A. O. Hector, Crieff
A. Hemingway, Wimbledon
J. F. Hennessy, jun., Burwood, Sydney
N. W. Hick, Scarborough
G. F. Hillman, Stroud Green, Hornsey, N.
H. E. Hinchliffe, Mytholmroyd
F. W. Hipkins, Bamford, near Sheffield
H. A. Hodgson, Birkenhead
F. Holden, Blackburn
L. Horsfall, Luddenden
R. Hotz, London
W. W. Houston, Belfast
G. Howkins, Rugby
F. H. Howlett, Pontefract
J. W. Howroyd, Bradford
A. F. Hunt, Cricklewood
A. Ingham, Hebden Bridge
D. W. Irving, Crewe
R. Jackson, Shrewsbury
T. S. James, Cardiff
T. G. Jenner, Bath
H. C. Jennings, Leyton, N.E.
H. Jennings, Harlesden, N.
R. J. Johnston, Brighton
M. Johnstone, Carlisle
T. R. Jones, Port Dinorwic
W. J. Jones, Streatham Hill, S.W.
W. H. Judges, Stoke Newington, N.
W. J. Kendall, Leeds
J. Kennedy, Lloyd-square, W.C.
M. W. T. Klug, Regent's Park, N.W.
F. W. Knight, Hitchin
F. L. Kruckenberg, Ickley
R. Lambert, Shipley
C. A. Landsell, Acton, W.
F. B. Last, Harborne
F. H. Lawson, Gosforth
P. H. Lawson, Newton, Chester
A. E. Leeson, Burnt Green
T. E. Legg, Woodford Green
A. D. Leroy, London
H. R. Levy, West Hampstead, N.W.
T. A. Lodge, Crookham
C. W. Long, Streatham
A. Lowcock, Dronfield
W. Lucas, Hammersmith, W.
D. McF. McCaul, Chislehurst
T. J. Mather, Denbigh
R. E. Matthews, Coventry
H. Moliver, Victoria Park, E.
W. V. Morgan, Norwich
F. H. Morley, Leicester
H. E. Moss, Surbiton
E. Nixon, Jesmond, Newcastle-upon-Tyne
W. Oates, Halifax
G. Owen, Warrington
A. T. Parker, Southend-on-Sea
W. Parker, Redditch
S. C. Parrott, Luton
J. Paterson, Berwick-on-Tweed
A. E. Peck, South Shields
G. S. Peddie, Glasgow
T. J. Peters, Newcastle-on-Tyne
H. B. Ponder, Hastings
C. W. Porter, Rhodes, Manchester
A. Pratten, Reading
W. H. Price, Bridgwater
W. J. Pywell, Hanwell, W.
T. Reive, Levenshulme, Manchester
R. T. Rhodes, Epping
A. I. Richards, Yon Pentre
N. V. Roberts, Bradford
H. L. Robinson, Clapham
J. C. Rogers, Weybridge
R. Rostron, Birkdale, Southport
E. Roughley, Shatto Heath, St. Helen's
D. W. Rowntree, London
H. J. Rowse, Crosby, Liverpool
G. Royle, Manchester
E. C. Rycroft, Thornton Heath
H. F. Saunders, Margate
W. Shackleton, Great Horton, Bradford
S. W. Sherren, Croydon
A. G. Shoosmith, Hertford
D. G. Shrubsall, London
F. A. Silk, London
E. Smith, Wisbech
F. N. Smith, Nottingham
H. F. Southcott, Surrey Hills, Sydney
J. N. G. Stafford, Birmingham
S. J. Stainton, Tipton
H. C. Strickland, Fulham, S.W.
E. J. Sutcliffe, Hebdon Bridge, Yorks
H. Sutcliffe, Otley-road
C. M. Swannell, Muswell Hill
E. J. Tanner, Beckenham
A. G. Taylor, Kingston-on-Thames
F. Thorp, Southport
J. H. Tiffen, Carlisle
C. B. Todd, Hull
A. A. G. Toone, C.-on-M., Manchester
F. Tranmer, Scarborough
N. Tregelles, Hoddesdon
A. C. Tricker, Surbiton
A. H. Turner, Caversham, near Reading
G. A. Tyson, London
S. F. G. Underwood, March, Cambs.
C. Voysey, Chorley Wood
F. W. Walker, Derby
W. Walker, Barnsley
F. R. Ward, Wednesbury
A. Watts, Manchester
P. E. Webb, London
P. J. D. Webster, London
J. Weinberg, London
C. T. Whiteley, Shipley
T. B. M. Wightman, W. Glasgow
C. B. Willcocks, Caversham
H. Wilson, Tadcaster
W. Wood, West Bromwich
C. Worssam, near Elstree, Herts

Intermediate.

The Intermediate Examination, qualifying for registration, as *Student R.I.B.A.*, was held in London and the undermentioned provincial centres on June 12, 13, 14, and 15.

One hundred and fifty-six candidates were examined, with the following results:—

District.	Number Examined.	Passed.	Relegated.
London	98	50	48
Belfast	1	1	—
Bristol	12	6	6
Glasgow	4	3	1
Leeds	15	5	10
Manchester	21	8	13
Newcastle	5	3	2
	156	76	80

The passed candidates, who have been registered as Students, are as follows, the names being given in order of merit as placed by the Board of Examiners:—

P. K. Hanton, London
J. C. Beare, Newton-Abbott
F. T. Bush, London
J. D. D. Watt, Falkirk, N.B.
J. Grieve, Bradford
J. L. Hampson, Bolton
H. H. Bradford, Clapham Common
H. L. Charles, Hereford
A. F. Bryan, Leicester
W. S. A. Emden, Hampstead, N.W.
R. W. Caldwell, Glasgow
D. Colville, Aberdeen
P. T. Adams, Camden-square, N.W.
B. V. Bartholomew, Walthamstow
R. Orr, Ringwood, Hants
T. S. Hosking, Bristol
T. H. Whittaker, West Bridgford, Nottingham
C. H. Murray, Camden-road, N.
W. A. Rigg, Carnforth
W. H. Mitchell, Sale
H. L. Wrigley, Stourbridge
R. Stockton, Heaton Norris, Stockport
A. F. Pelling, Durham
C. H. Rose, Wimbledon, S.W.
T. C. Mannooch, London
H. T. Rainger, Cheltenham
W. S. Mills, Leicester
A. H. H. Jenkins, Blackmill, near Bridgend
L. W. Walton, Nottingham
J. McN. Jeffrey, London
W. H. Wilson, Chelsea, S.W.
W. E. Woodin, Anerley, S.E.
C. S. Madeley, Perry Bar, Birmingham
C. A. Aish, Kingston-on-Thames
R. Wilson, Lewisham, S.E.
P. K. Kipps, London
H. A. Dickman, Sherwood, Notts
G. C. Wingrove, Newcastle-on-Tyne
A. G. Sheath, Eastbourne
C. D. Arnott, Gorleston-on-Sea
M. D. Mattison, Weaste
A. T. Scrivener, Stoke-on-Trent
R. Pierce, Llanfairpwll, Anglesey
H. E. Matthews, Yeovil
A. C. Burtingham, Evesham
R. H. Murray, Norbury, S.W.
J. W. Carter, Rugby
C. A. Hallatt, Wath-on-Dearne, near Rotherham
W. A. Daft, Oxford
J. M. Scott, South Kensington, S.W.
T. Edgar, Belfast
J. E. Bownass, Dorset-square, N.
T. A. D'Arcy Braddell, London
G. S. H. Bradford, Warwick-square, S.W.
D. J. Campkin, Sutton
G. S. Cockrill, Gorleston
A. Cooper, Slough
W. N. Couldrey, Balham, S.W.
C. W. Davis, Edgbaston
R. Duckett, Preston
H. B. Elkington, London
W. A. M. Fiddaman, Norwood Hill, S.E.
G. E. Fitzgerald, St. John's, S.E.
E. H. Foster, Thorne, Doncaster
G. K. Gwynne, Bournemouth
R. E. Haynes, Shrewsbury
A. Kay, Pendleton, Manchester
F. J. McC. Maxwell, London
A. F. Murray, St. John's Wood, N.W.
W. W. Tipton, Wellington
A. Turnbull, Sunderland
V. Ware, Bournemouth
J. H. Wheatley, Petersfield
A. Wilby, Stoke Newington
E. L. Wright, Stafford
G. H. Yeoman, Streatham

Final.

The Final and Special Examinations, qualifying for candidature as *Associate R.I.B.A.*, were held in London from June 22 to 29. Of the 112 candidates examined, sixty-one passed, and the remaining fifty-one were relegated to their studies. The successful candidates are as follows:—

D. Bamford, West Kensington, W.
F. N. Bamford, Knightsbridge, S.W.
H. Blackadder, Broughty Ferry
A. G. Bray, Bolton
A. E. Brooker, Forest Hill, S.E.
A. Bullock, Streatham Hill, S.W.
W. W. J. Calthrop, Horsham
* H. R. Coales [Special Examination], Leatherhead
O. H. Cockrill, Great Yarmouth
T. H. O. Collings, Brighton
W. H. H. Cooke, Wembley
R. W. A. J. Cosway, London
M. J. Dawson, London
H. B. Downs, Guiseley
C. W. Eaton, Deane Bolton
E. H. Edleston, Nantwich
G. A. Farrar, Chorlton-cum-Hardy, Manchester
* F. H. Fitzgera'd [Special Examination], Wandsworth
F. J. Forster, Wimbledon.
F. B. Foster, Weston-s.-Mare
* J. B. Fulton [Special Examination], London, W.C.
E. H. Gandy, Muswell Hill
L. M. Gotch, London
A. C. Goulder, Woodford Green
J. W. Hepburn, South Belgravia, S.W.
G. B. H. Hoole, Highgate, N.
†P. C. Hoy [Special Examination], Heaton Mersey
F. J. Humphrey, Surbiton
D. B. Hutton, Glasgow
* E. T. Jago [Special Examination], Adelphi
* G. T. Jell [Special Examination], London
E. R. Kennedy, Belfast
H. G. Leslie, London
C. C. Makins, B.A. Cantab., London
* H. J. C. Marshall [Special Examination], London
H. Moss, Whalley Range, Manchester
S. Moss, Eccles
J. E. Mundell, London
H. F. Murrell, West Dulwich, S.E.
* J. Newton [Special Examination], Purley
J. Parlett, Balham
S. H. Penlington, Sudbury

G. E. Phillips, Acton, W.
H. A. Rowbotham, London
* J. Rycroft [Special Examination], Heaton, Bradford
W. P. Rylatt, Headingley, Leeds
J. P. Salwey, Reading
V. G. Santo, Shrewsbury
W. P. Schofield, Leeds
H. Shackleton, Keighley
J. Smith, Glasgow
F. A. Sprules, Sutton
F. G. Stockdale, London
C. R. Thickpenny, Watford
W. I. Travers, Kensington
E. H. Walker, Doncaster
E. G. Walker, Bayswater Hill, W.
* B. M. Ward [Special Examination], Liverpool
B. Watson, North Shields
B. C. Westwick, Mansfield
* A. Woodeson [Special Examination], Tilehurst, Reading

The following table shows the number of failures in each subject of the Final Examination :—

I. Design	36
II. Mouldings and Ornaments	34
III. Building Materials	11
IV. Principles of Hygiene	18
V. Specifications	6
VI. Construction, *Foundations, etc*	20
VII. Construction, *Iron and Steel, etc.*	20

* The candidates to whose names an asterisk is prefixed entered for the Special Examination, which is for architects in practice not less than twenty-five years of age, and chief assistants over thirty. Such candidates are exempted, by special resolution of the Council, from the Preliminary and Intermediate Examinations, and from submitting "Testimonies of Study."

THE LONDON COUNTY COUNCIL.

THE usual weekly meeting of the London County Council was held on Tuesday in the County Hall, Spring-gardens, Alderman Evan Spicer, Chairman, presiding.

Loans.—On the recommendation of the Finance Committee, it was agreed to lend Bermondsey Borough Council 2,000*l.* for electric lighting; Camberwell Borough Council 500*l.* under Baths, etc., Acts; Lambeth Borough Council 4,088*l.* for paving work; Metropolitan Asylum District Managers 64,320*l.* for various purposes; St. Marylebone Borough Council 45,600*l.* for electric lighting purposes; St. Pancras Borough Council 1,271*l.* for various purposes; Stepney Borough Council 3,000*l.* for a public convenience; Shoreditch Borough Council 23,555*l.* for electric lighting purposes; and Wandsworth Borough Council 3,000*l.* for improvements. Sanction was also given to the following loans :—Islington Borough Council 26,487*l.* for paving work; and Islington Borough Council 4,200*l.* for paving works.

Vauxhall Bridge: Proposed Models of Propylæa.—The Improvements Committee recommended :—

"(*a*) That expenditure on capital account not exceeding 440*l.* be sanctioned for the erection at the west approach to Vauxhall Bridge of two full-sized models of the suggested propylæa.

(*b*) That two full-sized models of the suggested propylæa be erected at the west approach to Vauxhall Bridge, in accordance with design No. 1 submitted to the Improvements Committee on March 28, 1906; and that the Committee be authorised to arrange for the execution of the work."

Mr. Lewin Sharpe moved that the matter be referred back for further consideration. He was quite sure that the members of the Council were agreed that the propylæa were out of scale and unnecessary. The matter had not had the consideration it should have had. He did not oppose the matter on the ground of expense. He thought that the architect of the bridge, the general features of which he most heartily agreed with, had, in this instance, lost scale and proportion.

Mr. Waterlow seconded the motion, which, after a short discussion, was carried, thirty-six voting for it, and eight against.

Opening of No. 17, Fleet-street.—The Local Government, Records, and Museums Committee recommended, and it was agreed :—

"(*a*) That the "council chamber" at No. 17, Fleet-street, E.C., be opened to the public on week-days (except Good Friday and Christmas Day) between the hours of 10 a.m. and 2 p.m.

(*b*) That during the time the room is not open to the public it be available for hire for the purposes of meetings; and that the Local Government Records and Museums Committee be authorised to act on behalf of the Council in the matter.

(*c*) That arrangements be made for the sale in the room of the handbook relating to No. 17, Fleet-street, and of the most important of the Council's publications.

(*d*) That pending the settlement of permanent arrangements for the custody of the room during the time it is open to the public, the employment temporarily of a female caretaker at the wages of 5*d.* an hour be authorised."

The Works Committee.—The Works Committee submitted a statement of works completed during the half-year ended March 31, 1906. In statement I. are included the accounts for seventeen works, in respect of which complete specifications and bills of quantities have been prepared. The statement contains all the works completed in the half-year, and, although the cost of two works has exceeded the final certificate, the net balance of cost below certificated value is 52,589*l.* 14s. 8d. The Committee reported on February 20, 1906, that, although Aldwych and Kingsway had been opened for traffic, they feared it would be impossible to report, before December, 1906, the complete financial result of the execution by them of the formation of those thoroughfares, and the tramway subway beneath them. There were small portions of the work yet to be done, but completion is delayed owing to the non-demolition of certain dwellings which the Improvements Committee are not in a position to deal with at present. The Council, on July 3, 1906, approved an arrangement for dealing with these portions, and the Committee were thus able to report the figures of cost and value of the whole of the improvement (with the exception of the portions above referred to) as follows :—

Holborn to Strand Improvement	Accepted estimate.	Final certificate of work done.	Cost.
	£	£ s. d.	£ s. d.
Section reported on February 2, 1904	20,050	20,190 13 6	18,574 1 2
Sections reported on February 20, 1906	85,275	91,383 5 5	77,573 3 9
Sections reported on July 17, 1906	218,455	217,240 6 4	177,506 6 3
Total	323,780	328,814 5 3	273,653 11 2

"The balance of cost below final certificate is therefore 55,160*l.* 14s. 1d. We attribute this result in a great measure to the fact that we have been enabled to execute this large work, although it was cut into sections and referred to us at different times, with practically one organisation and control. We have also benefited by the general fall, since the estimates were made, in the price of materials.

In statement II. is included the cost of the annual cleaning of the central offices and the Education (central) offices.

Statement III. shows the results of the execution of jobbing works during the year 1905-6, the balance of cost below schedule value being, in the case of general jobbing works not already reported, 2,037*l.* 19s. 10d., and in the case of Education jobbing works, 12*l.* 16s. 8d.

The total cost of the works included in the statements now presented does not represent the whole turnover of the department, because much of the expenditure on these works occurred previous to the half year in question, while on the other hand much of the expenditure during the six months was upon works which are still unfinished. The approximate expenditure on works executed by the department during the half year was 350,000*l.*, and the turnover for the year 1905-6 was 650,000*l.*, as compared with 662,000*l.* for the previous year. Certain percentages are added to the expenditure on labour and materials charged to each work in respect of general and establishment charges which cannot be debited direct to individual work, i.e., charges such as interest on and repayment of capital, salaries and office wages, and a proportion, approved by the Council, of the salaries of the staff of the various departments at the central offices. These percentages are fixed by us each year, and are such as to discharge all expenditure charged to general and establishment charges account respectively. The percentages adopted for the year 1905-6 were, for estimated works, 1 and 3½, and for jobbing works 2 and 5 respectively.

The number of estimated works referred to us for execution, and not yet included in the half-yearly statements of completed works submitted to the Council, is thirty-six, representing an estimated expenditure of approximately 1,456,000*l.* In addition, works to the estimated value of about 20,000*l.* are in course of execution on the basis of actual cost. As required, we report that, so far as can at present be foreseen, the only work in progress in which it is anticipated that the accepted estimate will be exceeded is the erection of the Basing-road school.

Our order of reference requires us to obtain the approval of the Council to any excess of cost over final certificate of value of works executed by us, and we recommend :—That the excess, amounting to 112*l.* 14s. 10d. and 222*l.* 6s. 10d., of actual cost over final certificate in respect of the erection of the Farce-road school for mentally defective children and the Peterborough school for physically defective children respectively, be approved."

After a brief discussion, the recommendation was carried.

Tramways.—The Highways Committee recommended, and it was agreed :—

"(*a*) That the estimate of expenditure, on capital account, of 13,800*l.*, submitted by the Finance Committee, in connexion with the diversion of gas and water mains, the laying of cable-ducts, and the sinking of trial holes, preliminary to the work of constructing the tramways between Hammersmith and Putney, authorised by the London County Council (Tramways and Improvements) Act, 1902, be approved.

(*b*) That the estimate of expenditure, on capital account, of 6,520*l.*, submitted by the Finance Committee, in connexion with the widening of the south-western approach to Putney Bridge, necessitated by the construction of the authorised tramways between Hammersmith and Putney, be approved.

(*c*) That expenditure, on capital account, not exceeding 11,800*l.* be sanctioned for the diversion and alteration of water and gas mains along the route of the authorised tramways between Hammersmith and Putney, and for the sinking of trial holes in connexion therewith, in conjunction as far as necessary with the Metropolitan Water Board and the companies concerned; that the Highways Committee be authorised to arrange for the execution of such works."

Holborn to Strand: The Northern Frontage of the Strand between the Two Churches.—The Improvements Committee submitted the following Report :—

"The Council will remember that on July 28 and October 20, 1903, we reported fully on suggestions which had been made for altering the northern frontage of the Strand at the part affected by the Holborn to Strand improvement. These suggestions were made by Mr. Hamo Thornycroft, R.A., by an association of private persons known as the Further Strand Improvement Committee, and by the Royal Institute of British Architects. The Council's architect upon our instruction also prepared a plan. The objects were (*a*) to bring the church of St. Mary-le-Strand into alignment with the centre of the Strand, (*b*) to make the direction of the Strand aim at the front of the church of St. Clement Danes and not at one corner of it, and (*c*) to secure for the future a good view of the Courts of Justice to all approaching that building from the Strand on the west. The cost of adopting these suggestions was estimated by us at 360,000*l.*, 249,400*l.*, 74,000*l.*, and 63,000*l.*, respectively. The Council on October 20, 1903, decided to make no alteration in the existing line of frontage, on the grounds that not one of the proposals offered sufficient advantage to justify the Council in incurring the great expense which would be involved. This resolution, with a copy of our report, was communicated to Mr. Thornycroft, to the Royal Institute of British Architects, and to the Further Strand Improvement Committee.

Since that date we have had before us the undermentioned memorials, etc., asking that the matter may be reconsidered :—(i.) A memorial signed by Sir Edward J. Poynter, P.R.A., Mr. Hamo Thornycroft, R.A., Mr. T. G. Jackson, R.A., Mr. R. Norman Shaw, R.A., and several other prominent artists and architects; (ii.) a letter from the Royal Institute of British Architects; (iii.) a letter from the Architectural Association; and (iv.) a memorial from the Further Strand Improvement Committee, the Royal Academy of Arts, the Institute of Bankers, the Surveyors' Institution, and others.

A meeting of persons interested in this last proposal was held at the Royal Academy in March last, when a resolution was passed to the effect that the memorialists had made out a clear case against the Council's plan. A deputation consisting of Lord Claud Hamilton, Sir Edward Poynter, P.R.A., Mr. R. Blomfield, A.R.A., and others attended before us, when Mr. Blomfield, speaking on its behalf, criticised the frontage line adopted by the Council, contending that it would be most inconvenient for traffic in consequence of the abrupt bend to the north-east, which would be necessary in order to enable the traffic to clear the Gladstone monument, whereas the advantages of a straight run from St. Mary-le-Strand to the monument were obvious; and that the architectural vista in each direction would be lost. Mr. Blomfield pointed out that St. Clement Danes Church, with the new buildings to be erected on the Council's land, would block the view of the Law Courts; that the general axis line of the Council's scheme would not be parallel to the axis line of St. Mary-le-Strand Church, so that the church would be left out of relation to the general scheme; that, as the frontage line left more than half of St. Clement Danes out of account, the two churches would not be brought into touch; that the position of the Gladstone monument would emphasise the absence of any consecutive idea; and that by the southward dip of the alignment, the view down the Strand to the west of St. Mary-le-Strand Church would be intercepted by the church. He suggested that, in general, the Council's proposals appeared not to have grasped the full possibilities of the case; that it limited itself to the ground between Wellington-street and St. Clement Danes, whereas it should have taken into consideration the whole space from Wellington-street to the east end of the Law Courts; that if this were done, a superb architectural vista would be assured; that the Law Courts would be brought into relation with the important new buildings which would occupy the ground to the west; that the churches of St. Mary-le-Strand and St. Clement Danes would fall into their places as architectural monuments of great beauty and interest, standing clear in what might be made one of the finest roads in the world, and that thus, at a relatively small cost, London would gain architecturally the unearned increment of the money spent in the past upon all those excellent buildings.

The scheme advocated by the Further Strand Improvement Committee provides for the addition to the public way in the Strand of a small part of the central portion of the crescent site, and of a much larger part of the site at the eastern horn of the crescent site. It is proposed to alter the position of the eastern spur street between the Strand and Aldwych; this will have the effect of

curtailing very considerably the area of the site which the Council has agreed to lease to a syndicate at a rent of 55,000*l.* a year. Finally, it is proposed to form in the centre of the Strand immediately to the east of St. Mary-le-Strand Church an island pavement, about 430 ft. long, with an average width of about 35 ft. It is suggested that trees might be planted and memorial statues erected on this pavement. Having regard to the heavy cost which this proposal would entail, both in respect of the value of the land given up and the risk of jeopardising the completion of the letting, we felt that we should not be justified in advising the Council to adopt it, in its entirety. With a desire, however, of ascertaining whether it would not be possible to meet in some way the wishes of the eminent authorities in matters of art who had approached us, we instructed the architect in conjunction with the other officers to report, with full details of the cost, on any suggestion which they might be able to offer for altering at relatively small cost the line of frontage of the eastern horn of the crescent. This was done, and in order that the matter may be fully understood, we give the subjoined table :—

Suggested modified line of frontage.	Average width suggested for the Strand.	Value of land surrendered to public way.	Estimated cost of altering vaults, paving, etc.	Total cost of adopting suggested alteration of frontage.	Cost of erecting buildings on land given up.	Annual rateable value of land and buildings.	Loss in rates per annum.		
							To other rating authorities at 3s. 8d. in the £.	To the Council at 3s. in the £.	Total.
	ft.	£	£	£	£	£	£	£	£
(*a*) Further Strand Improvement Committee's scheme.	155	239,400	10,000	249,400	82,800	12,690	2,326	1,904	4,230
(*b*) Plan suggested by Council's architect.	114	50,000	8,000	58,000	11,825	2,364	433	355	788

Although the Further Strand Improvement Committee in their memorial have not dealt with figures, both the Secretary of the Committee and Mr. Blomfield have criticised the estimates suggested by the Council's officers of the cost of the Committee's scheme. On a careful review of the facts, however, we do not see any reason to reduce these estimates.

We think it right to point out that before the Holborn to Strand improvement, as submitted to Parliament, was approved by the Council, we consulted the Royal Institute of British Architects, with the result that the scheme which was finally adopted by the Council embraced the suggestions made by the Royal Institute after we had slightly modified the Institute's plan in order to make the crescent-road (Aldwych), connecting the new main street with the Strand, more symmetrical. By this scheme a minimum width of 100 ft. was provided for the Strand, as well as for the streets leading to Holborn, now named Aldwych and Kingsway. The width of the Strand immediately to the east of its junction with Aldwych at Wellington-street was proposed to be 100 ft., and a similar width was provided for the Strand immediately to the west of its junction with Aldwych at St. Clement Danes Church. This width gradually increased to about 160 ft. to the east, and also to the west of St. Mary-le-Strand Church, in order to provide a minimum width of 50 ft. for the traffic on each side of the church. In the large open space between the eastern end of the crescent site and the western side of St. Clement Danes Church, the Council agreed, on March 13, 1900, to allot to the Gladstone Memorial Committee a site for the purpose of the monument since erected by the Memorial Committee. The minimum width of the Strand before the Council executed the widening at Holywell-street was less than 40 ft.

We have arrived at the conclusion that the width already provided by the Council for the widened Strand, namely, a minimum of 100 ft., is in every respect ample for the present and prospective traffic. It must not be forgotten that since the opening of Aldwych and Kingsway some of the traffic passing to and from the new street and the southern, eastern, and western parts of London does not use the portion of the Strand between Wellington-street and the Law Courts; this part of the thoroughfare is accordingly used almost entirely by the traffic passing from Fleet-street westwards, and from the western portion of the Strand eastwards to Fleet-street. Fleet-street is being widened by the City Corporation to 60 ft., and the Council is contributing part of the cost. The portion of the Strand opposite the Hotel Cecil has been widened, at the cost of the Council, to 80 ft., and the same width has been adopted for the improvement at the portion of the Strand east of the Hotel Cecil and opposite Beaufort-buildings. It will be apparent, therefore, that while the portion of the Strand between Wellington-street and the Law Courts has been relieved of traffic which formerly passed along it, the Council has provided a width of street far in excess of that which has been adopted for other portions of the same line of thoroughfare. Moreover, the width of 100 ft. is considerably in excess of that generally adopted for street improvements in the past.

With these facts before us, it appears that any proposal for increasing the width of 100 feet for the portion of the Strand between Wellington-street and the Law Courts cannot be made merely on the ground of meeting the needs of the traffic, but must partake almost entirely of the nature of an æsthetic proposal, the chief argument in support being to secure better architectural effect by bringing into greater prominence the Church of St. Mary-le-Strand and the Law Courts. We are not convinced that by throwing open to view various portions of the Law Courts building and of the church the architectural effect in the Strand would be considerably enhanced, and, indeed, there are objections to the proposal from the architectural point of view. After the most anxious consideration of the matter and with the greatest desire to give the fullest weight to the views of the distinguished artists who have favoured the Council by their views, we feel that the Council would not be justified in incurring so large an expenditure as would be involved in securing a doubtful enhancement of the architectural view in the Strand. Having regard to the great width already provided (100 ft.), it will be possible to secure under the Council's scheme an imposing effect for the buildings to be erected on the northern side of the Strand."

The Committee recommended accordingly.

Mr. Harvey said he felt that this subject interested London as a whole. It was such an important matter that he urged the Council not to come to a hasty decision. He moved an amendment that the recommendation be referred back to the Committee, with instructions to report as to the possibility of adopting the suggestions of the Council's architect on the proposals of the Further Strand Improvement Committee.

Capt. Swinton proposed that, in order to meet the views of the distinguished objectors, there should be a slight rearrangement of the ground plan of the proposed block by tilting it up, narrowing East Aldwych—a street unnecessarily wide for any traffic it would be called upon to carry—by some 5 ft. Thus, without curtailing the building area or spending money, they would secure the necessary space.

On Capt. Swinton's proposition the Council decided by a large majority :—"That the consideration of the question be postponed until the Improvements Committee report as to the advisability of setting back the present northern line of frontage in the Strand between St. Mary-le-Strand Church and the eastern end of Aldwych, so that an area of land approximately equivalent to the additional land surrendered for the widening of the Strand may be appropriated out of the roadway of Aldwych, with a view to avoiding any reduction of the area of land available on the island site for building purposes."

Brixton—London County Council School of Building: Proposed Extension.—It was agreed :—

"(*a*) That the estimate of expenditure on capital account of 1,200*l.*, submitted by the Finance Committee, in respect of the preparation and reproduction of drawings, printing, and lithography, quantity surveyor's fees, and other sundries incidental to the work of enlarging, and carrying out alterations at, the London County Council School of Building, Ferndale-road (Brixton), be approved.

(*b*) That, subject to the consent of the Board of Education to the preliminary plans, expenditure on capital account not exceeding 1,200*l.*, for the purposes referred to in resolution (*a*), be sanctioned."

New School Works.—It was also agreed :—

"That the estimate of expenditure on capital account of 122*l.*, submitted by the Finance Committee, in respect of taking out and lithographing quantities in connexion with the erection of a junior mixed school on the Rushmore-road site (Hackney, S.), be approved.

That, subject to the approval of the Board of Education to the preliminary plans, expenditure on capital account not exceeding 122*l.* be sanctioned in respect of the work referred to in the previous resolution.

That the estimate of expenditure on capital account of 108*l.*, submitted by the Finance Committee, in respect of taking out and lithographing quantities in connexion with the erection of an infants' school on the Rosendale-road site (Wandsworth), be approved.

That, subject to the approval of the Board of Education to the preliminary plans, expenditure on capital account not exceeding 108*l.*, in respect of taking out and lithographing quantities in connexion with the works referred to in the previous resolution, be sanctioned.

That the estimate of expenditure on capital account of 482*l.*, submitted by the Finance Committee, in respect of the conversion of the Cavendish-road school for the deaf (Clapham) into a school for the accommodation of physically defective children, be approved.

That the Cavendish-road school for the deaf (Clapham) be converted into a school for the accommodation of seventy-two physically defective children; that expenditure on capital account not exceeding 482*l.*, and on maintenance account not exceeding 214*l.*, for the purpose referred to, be sanctioned; and that the consent of the Board of Education be sought to the plans.

That the supplemental estimates of expenditure on capital account, as follows, submitted by the Finance Committee, in respect of the acquisition of outstanding interests, and also for the payment of fees and expenses in connection with the undermentioned sites, be approved :—Islington, 8—Richard-street, 40*l.*; Limehouse—Northey-street, 600*l.*; Poplar—Ricardo-street, 225*l.*

That additional expenditure on capital account not exceeding 865*l.*, for the purposes referred to in the previous resolution, be sanctioned.

That the request for payment of the solicitor's preliminary fee of 4*l.* in connexion with the acquisition of the interest of Mr. R. L. Banks, in freehold property adjoining the Northey-street site (Limehouse), be referred to the Finance Committee with a view to the payment of the money.

That the resolution of March 20, 1906, so far as it relates to the temporary allocation of the site in Hortensia-road (Chelsea) for higher education purposes, be rescinded.

That the estimate of expenditure on capital account of 378*l.*, submitted by the Finance Committee, in respect of preparing and lithographing the bills of quantities in connexion with the erection of a secondary school on a portion of the site in Hortensia-road (Chelsea), be approved.

That expenditure on capital account not exceeding 378*l.*, for the purpose referred to in the previous resolution, be sanctioned.

That it be referred to the Education Committee to take the necessary steps with a view to the erection of a secondary school to accommodate 510 girls on a portion of the site in Hortensia-road (Chelsea)."

Brixton—Santley-street: Painting.—It was agreed :—

"(*a*) That the resolution of July 10, 1906, so far as it relates to the acceptance of the tender of H. Bragg & Sons, Ltd., amounting to 457*l.*, for painting the interior and exterior of the Santley-street school (Brixton), be rescinded.

(*b*) That the tender of Rice & Son, amounting to 497*l.*, for painting the interior and exterior of the Santley-street school (Brixton), be accepted."

Selected List of Contractors.—The following recommendations were agreed to :—

"That the resolutions of June 26, 1906, and July 10, 1906, so far as they relate to the acceptance of the tenders of H. Kent (i.) for executing repairs to school buildings in the Greenwich and Lewisham (Group 1) electoral areas upon the printed schedule of prices; and (ii.) for painting the interior of the Wood's-road school (Peckham), be rescinded.

That the tender of W. Sayer & Son, amounting to 379*l.*, for painting the interior of Wood's-road school (Peckham), be accepted; that expenditure not exceeding 379*l.* be sanctioned for the purpose; that the solicitor do prepare, and obtain execution of, the necessary contract; and that the seal of the Council be affixed thereto.

That the name of Mr. H. Kent be removed from the selected list of contractors to be invited to tender for works to Council schools.

That the name of Mr. H. Kent be entered upon the list of persons and firms from whom the Council will not in future accept tenders.

That the name of Ginger, Lee, & Co., be removed from the selected list of contractors to be invited to tender for the removal and re-erection of iron buildings.

That the name of John Shelbourne & Co., who are on the selected list of contractors to tender for works not exceeding 10,000*l.* in value be not invited to tender for a period of three months."

London Building Acts (Amendment) Act, 1905: Projecting Shops.—The Report of the Building Act Committee contained the following paragraph :—

"We have recently had before us a deputation from the Association for the Amendment of the Projecting Shop Clauses. The sections of the London Building Acts (Amendment) Act, 1905, which deal with projecting shops are sects. 10 and 12. Sect. 10 provides that where any part of a building which is used or adapted to be used as a shop projects for a distance of 7 ft. or more beyond the main front of a building of which it forms part, and in which any persons are employed or sleep, the projecting portion of such shop shall be provided by the owner with a roof constructed of fire-resisting materials not less than 5 in. thick. The section also deals with the construction and placing of cowls and lantern lights in such roofs. Sect. 12 requires the provision of means of escape in case of fire from buildings coming within the scope of sect. 10, when such buildings have more than two storys above the ground floor or exceed 30 ft. in height.

On behalf of the deputation it was urged that in addition to the actual cost of carrying out the requirements of sect. 10, the alterations inevitably involved considerable interruption of business and damage to stock, and that the requirement of the section, that lantern lights should not be less than 6 ft. from the main front of the buildings, rendered the lighting of the back portions of shops almost impossible without recourse to artificial means. The deputation also claimed that the number of lives lost or endangered in the past through projecting shops was not such as to justify the placing of so heavy a burden on the owners of existing shops, and asked that the Council would endeavour to secure the repeal of subsect. 3 of the section, which subsection enacts that the Act should apply to existing as well as to new buildings.

The matter was one of the earliest to engage our attention when we were considering the course to be adopted in carrying out the provisions of the Act,

and we have always been of opinion that, provided reasonable means of escape could be otherwise secured, the Council should take advantage of the power given to it in subsect. 4 of the section to grant complete or partial exemption wherever possible, and the fact that no appeal has yet been made against our decisions would appear to show that the demands made by us on behalf of the Council have not been unreasonable.

We have received 553 applications for exemption from the provisions of the section, of which 296 have been dealt with during the six months ended June 30, 1906; of these, eighty-five were granted and sixty-two refused. In twenty-one cases partial exemption was granted. In 113 cases the applicants were invited to submit proposals in lieu of compliance with the provisions of the section, in ten of which the alternate proposals have been submitted and accepted. In five cases no action was taken."

At the request of a member, the Report was taken back.

Means of Escape in Case of Fire from Factories, Workshops, etc.—The same Committee reported as follows, the recommendation being agreed to :—

"On June 22, 1902, the Council approved a statement with reference to its requirements in respect of the means of escape in case of fire from factories, workshops, etc., in accordance with the provisions of the Factory and Workshop Act, 1901. Since that time the London Building Acts (Amendment) Act, 1905, dealing with the means of escape from buildings other than factories and workshops has come into force, and we are of opinion that the statement should be revised in order to include the Council's requirements under this Act. We recommend that the statement separately submitted* by the Building Act Committee with reference to the Council's requirements in respect of the means of escape in case of fire from factories, workshops, and other buildings, in accordance with the provisions of the Factory and Workshop Act, 1901, and the London Buildings Acts (Amendment) Act, 1905, be approved."

New County Hall: Designs.—The Establishment Committee reported as follows :—

"Now that the London County Buildings Bill, 1906, has passed through both Houses of Parliament and is expected to receive the Royal Assent, on July 20, we desire to submit our suggestions with regard to obtaining designs for the new county hall.

The Council will remember that the site has an area of 5.6 acres, and is bounded on the west by the River Thames, on the south by the approach to Westminster Bridge, on the east by Belvedere-road, and on the north by the premises occupied by the works department, and that the site, together with the land occupied by the works department, has an area of about 7·5 acres.

With reference to the course to be taken by the Council for obtaining designs for the new offices, it may be mentioned that, at the outset of the consideration of the matter, a communication was received from the Royal Institute of British Architects expressing a hope that it might have the privilege of advising the Council in the matter of securing designs of this important building, in which "an exceptional opportunity will occur of realising the educational value of the art of architecture and of fostering the arts and crafts of the day." We expressed our willingness to receive and consider any suggestions which the Royal Institute might desire to make as to the best means of securing the erection of a "dignified building" suitable for the administrative needs of the Council, and subsequently the Royal Institute expressed the opinion that the only way of securing such a result as the Council naturally desired was to obtain, "by some means or other, a strongly individualised personality to deal with the problem under properly defined conditions," and the Institute suggested that the method most likely to achieve that result would be to institute a competition. In support of this view the Institute called attention to the fact that the designs for the following buildings were all so selected :—The Houses of Parliament and the Foreign Office in London; the Hotel de Ville, the Opera House, and the Palaces of Art in Paris; the Houses of Parliament in Berlin; the Central Library, New York.

The Institute pointed out that in the case of some of the buildings referred to there was a preliminary and a final competition, and expressed the opinion that this is the method best suited to the requirements of the Council. It was further suggested that, with the view of securing that some of the leading architects should take part in the competition, several should be invited to compete in the final stage. At the same time the Institute forwarded the heads of a scheme for giving effect to the suggested competition.

Careful consideration has been given to the suggestion of the Royal Institute of British Architects, and also to the report from the architect of the Council on the courses which could be followed, viz., unlimited competitions, limited competitions, appointment of a nominated architect, appointment of an official architect, and appointment of an official architect in collaboration with a nominated architect of eminence.

After full consideration of the various suggestions, we are strongly of opinion that the Council should have a competition and that the scheme should be on the following lines :—That the competition be divided into two stages (*a*) the preliminary, (*b*) the final; the preliminary stage to be open to architects of any nationality, and that not less than ten and not more than fifteen of the best designs shall be selected in private by assessors; the final stage to be open to (1) the authors of the designs selected by the assessors in the preliminary stage, and (2) not exceeding eight leading architects to be invited by the Council to send in designs before the expiry of the period within which designs must be sent in for the preliminary competition.

We think that there should be two assessors for the preliminary stages of the competition and three for the final, and that Mr. W. E. Riley, the Council's architect, and Mr. Norman Shaw, the senior architectural Royal Academician, should be nominated to act in both stages, and that the competitors in the final stage should vote for the third assessor who will only act in that stage.

We suggest that each of the competitors in the final competition should be paid a fee of 200 guineas, and we will report next week as to the remuneration of the assessors. We also expect to be in a position to report as to the date by which the designs should be deposited at the county hall.

If the Council endorses our views and decides to have a competition, the Council's architect should prepare detailed particulars of the accommodation required by the Council, having regard to the functions of the Council itself, the work of its committees and of the several departments, and the intricacies of their detailed workings both in their relations to each other and to the public. When fully matured, these particulars would be submitted as the basis of the competition. The instructions to competitors would indicate that the particulars showed the minimum accommodation, and that licence would be permitted to depart therefrom in any details which might be considered necessary for the development of the elevations. Following the principle recognised by Government departments in the buildings for the War Office, the Local Government Board, and the Admiralty, we propose to make it a condition that the successful competitor, if appointed, shall collaborate with the Council's official architect, who should have discretionary power in all matters relating to the internal economy and construction of the building.

We are forwarding to the Finance Committee a supplemental estimate in respect of the fees for the assessors and the competitors in the final stage of the competition, and we trust that that Committee will be in a position to submit the estimate to the Council before the adjournment for the summer recess. We recommend that the Establishment Committee be authorised to take all the necessary steps for obtaining the preliminary plans and arranging for the competition on the lines indicated in the foregoing report, for securing designs for the new county hall to be erected on the Westminster Bridge site."

The consideration of the matter was adjourned.

The Council adjourned soon after nine o'clock.

* See opposite page.

APPLICATIONS UNDER THE LONDON BUILDING ACT, 1894.

THE London County Council at their meeting on Tuesday dealt with the following applications under the London Building Act, 1894. The names of applicants are given between parentheses :—

Lines of Frontage and Projections.

City of London.—Balconies, oriels, and a projecting hood at Nos. 108 to 111, Fleet-street, City (Messrs. Smee & Houchin for Messrs. T. Cook & Son).—Consent.

Fulham.—Buildings on the south-western side of Farm-lane, Walham-green (Messrs. A. Krauss & Son for the London and District Motor 'Bus Company, Ltd.).—Consent.

Fulham.†—Four houses on the northern side of Hannington-road, Fulham, with flanks abutting upon Napier-avenue, Ranelagh-avenue and Cromwell-avenue (Mr. A. Dawkins for Mr. R. B. Mason).—Consent.

Hammersmith.†—An office building on the northern side of Great Church-lane, Hammersmith, over the Metropolitan District Railway (Mr. C. H. King for the Metropolitan District Railway Company).—Consent.

Kensington, South.—Additions at the rear of No. 22, Pembroke-road, South Kensington, to abut upon Pembroke-villas (Mr. G. M. Silley for Professor G. Moira).—Consent.

Lewisham.—Completion and retention of a dwelling-house adjoining No. 106, Bargery-road, and of a dwelling-house adjoining No. 113, Inchmery-road, Catford, with the flanks of such houses abutting upon Thornsbeach-road (Messrs. Norfolk & Prior for Mr. J. Watt).—Consent.

Marylebone, East.—The retention of a projecting porch in front of Bute House, Avenue-road, Hampstead (A. F. Faulkner for Mr. W. Willett).—Consent.

Marylebone, East.—Two projecting hoods at Nos. 53, 54, and 55, Berners-street, St. Marylebone (Mr. L. A. Hayes for Messrs. A. Sanderson & Sons).—Consent.

Norwood.—Buildings on the western side of Caldecott-road, Coldharbour-lane, Norwood, with flanks abutting upon Bavent-road and Venetian-road (Mr. A. A. Carter).—Consent.

St. George, Hanover-square.—An oriel window in front of No. 125B, Mount-street, St. George, Hanover-square (Mr. H. P. Monckton for Mrs. J. Miller).—Consent.

Wandsworth.†—Retention of a hording abutting upon Woodwell-road and North Side, Wandsworth-common, Wandsworth (Mr. C. Brawn).—Consent.

Wandsworth.—A projecting one-story shop in front of No. 38, Brookwood-road, Wandsworth (Mr. H. G. Leslie for Mr. J. W. Blackwell).—Consent.

Wandsworth.—Porches to nineteen houses on the southern side of Upper Tooting-park, Upper Tooting, eastward of Trinity-road (Mr. W. C. Poole for Mr. F. Eaton).—Consent.

Width of Way.

Deptford.—Retention of a boundary wall and gates to the yard in front of a two-story addition at the relief office of the Greenwich Union, Mary Ann's-buildings, High-street, Deptford, at less than the prescribed distance from the centre of Mary Ann's Buildings (Mr. L. Jacob for the Guardians of the Greenwich Union).—Consent.

Lewisham.—A building upon the site of Nos. 61 and 63, Loampit-vale, Lewisham, at less than the prescribed distance from the centre of the roadway of Shrubbery-road (Mr. A. W. Osborn for Messrs. G. A. Harvey & Co.).—Consent.

Paddington, North.—An urinal on the western side of North Wharf-road, Paddington, at less than the prescribed distance from the centre of the roadway of such street (Mr. E. B. B. Newton for the Paddington Metropolitan Borough Council).—Consent.

St. Pancras, West.—A one-story addition at No. 21, Cumberland-mews, Regent's-park, at less than the prescribed distance from the centre of Cumberland-mews (Messrs. E. J. Saunders & Co. for Mr. C. B. Ullathorne).—Consent.

Width of Way and Lines of Frontage.

Strand.†—A projecting flue to the Savoy hotel extension on the northern side of Somerset-street, Strand (Messrs. Colcutt & Hamp).—Consent.

Hackney, South.—Houses with shops upon a site at the corner of Cassland-road and Brookfield-road, Victoria-park, Hackney (Mr. G. H. Lovegrove for Mr. G. S. Shaw).—Refused.

Hammersmith.—A building on the eastern side of Willow-vale, Uxbridge-road, Hammersmith (Mr. A. G. Channer for Mr. J. Watt).—Refused.

Wandsworth.†—A mortuary building on the southern side of Ram-square, York-road, Wandsworth (Mr. H. G. Hills for the Wandsworth Metropolitan Borough Council).—Refused.

Width of Way and Height of Building.

Westminster.†—An addition to Nos. 28-32, Victoria-street, Westminster, to abut upon Great Chapel-street and Dacre-street (Messrs. Griffin & Woollard for the Westminster Trust, Ltd.).—Refused.

Width of Way and Construction.

St. Pancras, East.—Retention of a shed at the rear of No. 129, Camden-road, St. Pancras, abutting upon Sandall-road-mews (Mr. B. Douthwaite).—Consent.

Lines of Frontage and Construction.

Battersea.†—Retention of a shed of a temporary character on the eastern side of Queen's-road, Battersea, southward of No. 324 (Mr. J. L. Williams).—Consent.

Hackney, Central.—A wood and iron church on the southern side of Darnley-road, Hackney (Messrs. J. Harrison & Co. for Mr. H. P. Ford).—Refused.

Space at Rear, Construction and Alteration of Building.

St. George, Hanover-square.—An iron and glass conservatory on the rear portion of the roof of the Bath Club, to abut upon Berkeley-street, St. George, Hanover-square (Mr. J. Johnson for the directors of the Bath Club Company).—Consent.

Width of Way and Space at Rear.

Bermondsey.—A building to abut upon Tower-bridge-road and Grange-walk, Bermondsey (Messrs. Barlow, Roberts, & Thompson).—Consent.

Space at Rear.

Paddington, South.—Modification of the provisions of section 41 with regard to open spaces about buildings, so far as relates to the proposed erection of a private hotel over the Lancaster-gate station of the Central London Railway, Stanhope-terrace, Bayswater-road, Paddington (Mr. D. Joseph).—Consent.

Whitechapel.—A modification of the provisions of section 41 of the Act with regard to open spaces about buildings, so far as relates to the proposed erection of an addition at the rear of No. 4, Fulborne-street, Whitechapel (Mr. C. H. King for the Metropolitan District Railway Company).—Consent.

Formation of Streets.

Lewisham.—A deviation from the plans approved on 1st December, 1903, for the formation of new streets for carriage traffic, to lead out to the south side of Leahurst-road, Lewisham, to Fernbrook-road, so far as relates to an alteration in the position of the boundaries of a portion of Fernbrook-road, near its junction with Staplehurst-road (Mr. E. H. Harrison for Mr. J. Johnson).—Consent.

Norwood.—A deviation from the plans approved on 20th February, 1906, for the formation or laying out of a new street for carriage traffic to lead from Trinity-road to Norwood-road, Lambeth, so far as relates to an alteration in the gradients of the proposed street (Mr. C. Death).—Consent.

Wandsworth.—That an order be issued to Messrs. Holloway Brothers, sanctioning the formation or laying-out of three new streets for carriage traffic upon the Magdalen-park estate, Wandsworth.—Consent.

Buildings for Supply of Electricity.

St. George, Hanover-square.—The application of Mr. C. S. Peach, on behalf of the Westminster Electric Supply Corporation, Limited, for the construction of a motor generating-station at Eccleston-place, St. George, Hanover-square.—Consent.

The recommendations marked † are contrary to the views of the local authorities.

Competition.

WESLEYAN CHURCH, WALLINGTON, SURREY.—In the competition for this new church the committee have awarded first place to the design of Mr. Frank Windsor, of Croydon, whose design has been accepted from a selection of thirty-two submitted names of architects, with a final selection from drawings submitted by six. The second premiated design was awarded to (the late) Mr. W. D. Church, of South-place; and the third premiated design to Mr. H. A. Woodington, of Jermyn-street. Accommodation is provided for 600 seatings, and the plan has large central nave with ambulatories. Exterior work to be carried out in Kentish rag, and the architect's estimate, without tower, is 6,640*l.*

BOOKS RECEIVED.

A HANDBOOK OF REINFORCED CONCRETE. By F. D. Warren. (Crosby Lockwood & Son. 10s. 6d.)

WORKING HINTS FOR SUCTION GAS PRODUCERS. By A. FLURSCHEIM. (Office of *The Gas and Oil Engine Record.* 1s.)

Correspondence.

THE LIGHTING OF LINCOLN CATHEDRAL.

SIR,—Anything more crude than the efforts made by some inartistic person to light this cathedral by electricity could not well be imagined. To those who have seen the building recently I need not give a description, but perhaps you will allow me to say a word or two as a protest against this clumsy job.

The main scheme for lighting the nave and choir has been to project out from the sills of the triforium openings plain iron rods or bars about 6 ft. or 8 ft. long, supported by diagonally fixed supports or struts placed at an angle of perhaps 45°, and from the horizontal bars to suspend wires, at the ends of which small clusters of lights are fixed. The effect of all this, viewed from either end of the nave, is a ridiculous row of horizontal and angular bars, mixed up with the beautiful lines of the architecture. At the east end of the nave piers, next the transepts, there are iron-bar arrangements having the appearance of hay-racks, to which the lights are attached. All this is really incredible, unless one had the evidence of ocular demonstration, as I have had.

The cathedral has been marred by this forest of iron bars and wires, for which there was not the slightest necessity. The building could have been easily lighted without one inch of iron bar or wire being obtruded upon the gaze of those who delight in the glorious architecture of this magnificent fane.

Did the Dean and Chapter allow this thing to be done without the approval of a competent architect? I fear they did.

In the hope that some well-to-do person, who may look upon this abomination with the same horror that I do, and may also hand over to the Dean and Chapter as much money as will pay for the removal of the present system, and the substitution of a new and artistic one, I venture to call attention to a matter which is really a disgrace to the intelligence and artistic feeling of England.

WILLIAM BUTLER.

Athenæum Club, Dublin.

THE FIRST TUSSAUD EXHIBITION.

SIR,—I noticed in your issue of July 7 (Notes of Old London), p. 8, col. 3, a statement to the effect that Madame Tussaud exhibited her waxworks for the first time in London at the Lyceum Theatre.

There is, in the neighbourhood of Camberwell Grove, a tradition to the effect that Madame Tussaud first exhibited in London, at the Old Grove House Hotel, Camberwell Grove. There is in this house a fair-sized upper room, with three tall windows, which has been pointed out to me as the place of exhibition. It is now a meeting-room of some piscatorial club.

A friend of mine says he has seen the statement re Madame Tussaud confirmed in an old History of Camberwell, to be seen in the Camberwell library. I have not seen it myself.

Of course, at that time (about a century ago) Camberwell may not have been included in London. On that point I confess ignorance.

The Old Grove House, with its adjoining coach-yard, is perhaps one of the quaintest and most beautiful bits of Old London still remaining with us. I am afraid it has only about four years' "life" before it.

A. C. CONRADE.

METROPOLITAN ASYLUMS BOARD.

THE usual fortnightly meeting of the managers of the Metropolitan Asylums District was held on Saturday, last week, at the offices, Victoria Embankment, E.C.

Joyce Green Hospital.—Among the correspondence received was a letter from the Local Government Board asking for details of the actual cost of the work comprised in the total expenditure of 1,214*l.* 11s. 7d. in connexion with the provision of additional bathroom and lavatory accommodation at this hospital. The matter was referred to Committee.—On the recommendation of the Finance Committee it was agreed to apply to the Local Government Board for sanction to the expenditure of a sum not exceeding 7,030*l.* on the erection of a goods reception station, porter's lodge, and staff cottages at the hospital.

Brook Hospital.—On the recommendation of the Hospitals Committee it was agreed to instruct the Engineer-in-chief to prepare a scheme for the provision of additional storage accommodation for steam coal at this institution. It was stated that at present a large amount of steam coal is stored in the open, inconvenience arising from dust being blown into the adjoining wards, etc.

Darenth Asylum.—It was agreed, on the recommendation of the Works Committee, that certain tar paving works at this asylum should be carried out by direct labour at a cost of 550*l.*

Millfield.—Messrs. Fowler & Hugman were appointed to measure up the variations on Messrs. J. Linfield & Son's contract for alterations and other works at this home at a commission of 2 per cent. on the additions and 1 per cent. on the omissions. The amount of the contract is 2,820*l.*

Caterham Asylum.—The Asylums Committee submitted a report dealing with the question of additional messroom and sleeping accommodation for the male staff at this asylum. The Committee submitted a sketch plan which provided for taking the roof off the existing messroom, recreation room, mess kitchen, scullery, corridor, and a portion of the clothing stores, and building thereon a superstructure, which would include a recreation room (33 ft. by 27 ft.) and twelve cubicles, together with bath, lavatory, and water-closet. The existing recreation room was to be converted into two messrooms, one for attendants and the other for the stores' staff. The approximate estimate for this work was 2,500*l.* It was agreed that the alterations should be carried out.

MEANS OF ESCAPE IN CASE OF FIRE.

AT the London County Council on Tuesday the following Building Act Committee statement was submitted:—

Statement of Council's requirements in respect of means of escape in case of fire (Factory and Workshop Act, 1901, and the London Building Acts (Amendment) Act, 1905).

Means of Escape in Case of Fire.

NOTE.—Applicants are advised to obtain copies of the Acts of Parliament mentioned below.

London Building Acts (Amendment) Act, 1905.

By the provisions of sects. 7 and 9 of the London Building Acts (Amendment) Act, 1905, the duty is imposed upon the London County Council of ensuring that the following buildings shall be provided with such means of escape in case of fire as can be reasonably required under the circumstances of the case:—

High Buildings and Twenty-person Buildings.—(*a*) Any high building, i.e., a building having any story the level of the uper surface of the floor whereof is at a greater height than 50 ft. above the level of the footway (if any) immediately in front of the centre of the face of the building in which such story is situate, or, where there is no such footway, above the level of the ground before excavation.

(*b*) Any building in which sleeping accommodation is provided for more than twenty persons, or which is occupied by more than twenty persons, or in which more than twenty persons are employed, or any new building which is constructed or adapted to be occupied by more than twenty persons, or which is constructed or adapted for the employment therein of more than twenty persons.

NOTE.—Dwelling-houses occupied as such by not more than one family are exempt from the provisions of sects. 7 and 9.

Projecting Shops.—By the provisions of sect. 10, in every new and existing building in which any persons are employed or sleep, part of which is used, or adapted to be used, as a shop, and projects 7 ft. or more beyond the main front of such building, the roofs over the projecting portions are required to be constructed of fire-resisting materials not less than 5 in. thick. Provisions are also made with regard to the position and construction of lantern lights and ventilating cowls in such roofs.

Rooms Over Premises Used for Storage of Inflammable Liquid.—By the provisions of sect. 11, buildings used in part for the storage of inflammable liquid, and in part for living-rooms, etc., are required to be provided with:—

(1) Adequate safeguards to prevent the spread of fire from the part of the building used for the storage of any such inflammable liquid to any room used as a living-room, workshop, or work-room, constructed over, or communicating directly with, any part used for the storage of such inflammable liquid, and

(2) Means of ready escape from such room in case of fire.

Means of Access to Roof.—By the provisions of sect. 12, every existing building having a shop projecting 7 ft. or more from the main front of the building, and to which sect. 10 above referred to applies, and every other existing building, except a dwelling-house occupied as such by not more than two families, and every new building shall, if having more than two stories above the ground story, or if exceeding 30 ft. in height, be provided (unless and except so far as the Council shall otherwise allow) with a dormer window or a door opening in a suitable position on to the roof, or a trap-door in a suitable position, with a fixed or hinged step-ladder, or other proper means of access to the roof, as specified in such sect. 12, and with a sufficient parapet or guard rail where reasonably practicable and necessary to prevent persons slipping off the roof. The provisions of such section do not apply to buildings falling within either sects. 7 or 9 above-mentioned.

Conversion of Buildings.—Under the provisions of sect. 13, buildings shall not, without the consent of the Council, be converted, whether by change of user involving structural alterations or not, in such a manner that the buildings when so converted will not be in conformity with the Act.

Means of Escape to be Maintained.—Under the provisions of sect. 14, all means of escape provided under this Act or otherwise shall be kept and maintained by the owner of the building in good condition and repair, and efficient working order, and no person shall obstruct or render less commodious, or permit or suffer to be obstructed, or rendered less commodious any such means of escape.

Factory and Workshop Act, 1901.

Factories and Workshops.—The provisions of sects. 14 and 103 (1) (*d*) of the Factory and Workshop Act, 1901, require that each factory, workshop, or laundry, in which more than forty persons are employed, shall be provided with such means of escape in case of fire for the persons employed therein, as can reasonably be required in the circumstances of each case.

Statement of General Requirements.

The Council, on approved the following statement with reference to the requirements in respect of the means of escape in case of fire to be provided in accordance with the provisions of the before-mentioned Acts, with a view to assisting owners and others in submitting applications and proposals to the Council thereunder. This statement must not, however, be taken as binding upon the Council, but only as a general guide or indication, since each case is, after full consideration of the varying circumstances, dealt with on its merits; and nothing herein contained must be taken as in any way interfering with, or derogating from, the powers of the Home Office, the Council, the District Surveyors, or any other authority whatsoever under the Factory Act, the London Building Acts, or any other Act, or under any by-laws that may be made under sect. 15 and sect. 153, subsect. 3, of the Factory and Workshop Act, 1901, or under any by-laws or regulations relating to the construction of buildings or otherwise, or as constituting any consent, sanction, allowance, or permission under any such Act, by-law, or regulation, but all such Acts, by-laws, and regulations must be fully observed and complied with notwithstanding anything herein contained.

Applications.

Particulars Required.—Applications for the Council's certificate in respect of the means of escape from new buildings, and applications with proposals to meet the Council's requirements in respect of the means of escape from existing buildings, or for exemptions from any of the provisions of the above Acts should state:—

(*a*) The Act and section of the Act under which application is made.

(*b*) The number of persons for whom sleeping accommodation is provided, and the number of persons occupying or employed on, or intended to be occupied or employed on, the various floors of the premises, specifying approximately the numbers of males and of females.

(*c*) The trade (if any) carried on, or to be carried on, on each floor, with particulars of machinery, power, etc.

(*d*) In the case of existing buildings, the date of the erection of the building.

(*e*) The name and address of the owner and the occupier (if any).

(*f*) Particulars of the occupation, or proposed occupation, of the building. If in different occupations, particulars with regard to each part should be furnished.

Plans Required.—Applications should be accompanied by complete plans, sections, and elevations, drawn to ¼-in. or ½-in. scale (one-eighth preferred), and by a block plan to a small scale showing the premises and the surrounding buildings and thoroughfares, such block plan having the north point indicated. These plans should show (as far as may be necessary for the purpose of the application) the means of escape proposed to be provided.

Means of Escape.

Number of Staircases.—The means of escape required depend, *inter alia*, upon the following circumstances:—

(*a*) The area and disposition of the building.

(*b*) The number and the distribution of the persons for whom the means of escape are to be provided.

(*c*) The user of the building.

(*d*) The nature of the construction of the building.

(*e*) In the case of a building used for trade purposes the nature of the materials and goods stored or manufactured in the building.

Means of Escape.—It may, however, be laid down as a general principle (subject to the exceptions hereinafter mentioned) that at least one enclosed and protected staircase and exit will be required, and, in addition, an alternative means of escape from each floor by one of the following means:—

(*a*) Another enclosed and protected staircase and exit in the same building.

(*b*) A suitable staircase in another block, to which access is given by doorway openings in the party or division walls, or by external communication.

(*c*) External gangways or balconies affording access to adjoining or adjacent buildings.

(*d*) An external iron staircase.

(*e*) Any other suitable arrangement which the Council may accept having regard to the circumstances of any particular case. No arrangement which is not permanently fixed in position, or which requires manipulation in part or in whole in order that it may be used in case of emergency, can be accepted.

Position.—Where there are two or more means of escape from any floor, they should be placed as far as practicable from each other so as to be approached from any part of the floor area independently of any one fire risk on that floor.

Escape by Roof.—(*f*) If all cases where considered necessary by the Council some means of escape from the roof of the building to the roof of the adjoining premises should be provided.

Cases in Which One Staircase May be Deemed Sufficient.—(*g*) In small premises, and in some cases where it is possible to provide a staircase in a central position, one enclosed staircase, approached from each floor only through a lobby ventilated directly into the external air, may be accepted provided that the premises are not used for the storage or manufacture of inflammable or explosive materials, but in no case shall this apply where any part of the floor space is more than 50 ft. from the exit to the staircase.

Maintenance.

Maintenance.—Periodical examination should be made of all means of escape provided to ascertain whether they are in good condition and repair, and in efficient working order.

All persons who are employed in or who occupy buildings in which means of escape have been provided should be made acquainted with the position and nature of such means of escape.

In hotels, boarding-houses, etc., notices should be displayed in each bedroom giving information as to the position and nature of the means of escape in case of fire, and the corridors, staircases, and exits should be efficiently lighted during the night.

Details of the Construction, etc., of Means of Escape.

I.—*Enclosed and Protected Staircases.*

A.—*Internal Incombustible Staircases.*

Enclosure.—(*a*) The staircases, including landings, lobbies, and passages from one flight to another should be enclosed by walls, not less than 9 in. thick, the outer edges of the steps and landings being properly supported.

(*b* The staircases should be ceiled with iron and concrete where they are not carried up above the roof, or where they are carried up above the roof and are liable to attack by fire from an adjoining structure.

Materials to be Used.—(*c*) The staircases, including the flooring in the lobbies, approach passageways, etc., should be constructed of incombustible materials with solid square or spandril steps, which should be supported at both ends on brickwork. The steps and landings should be not less than 6 in. thick.

(*d*) Spandril steps where used should be of the following thickness:—

(i.) For staircases 3 ft. 6 in. wide, not less than 3 in. thick in the smallest part.

(ii.) For staircases 4 ft. 6 in. wide, not less than 4½ in. thick in the smallest part.

B.—*Internal Fire-resisting Staircases.*

Materials to be Used and Enclosure.—(*a*) The staircases, including the treads, strings, carriages, landings, joists, and floors, should be constructed of oak, teak, jarrah, karri, or other hard timber of not less than 1¾ in. finished thickness (no fir or pine must be used), and the enclosure to the staircase should be a solid partition of incombustible, fire-resisting material at least 3 in. thick, carried up through the thickness of the floors.

(*b*) The ceilings and soffits of the staircases and landings (if any) should be of plaster or cement.

(*c*) A close balustrade of a suitable height should be provided where necessary to the outer string of the staircases.

II.—*External Iron Staircases.*

(*a*) The staircases, including the strings, bearers, and supports, should be of iron, and constructed throughout upon dead bearings, to the satisfaction of the District Surveyor.

(*b*) The steps and landings should be constructed of solid or perforated iron plates (if perforated plates be used no perforation should exceed ¾ in. across each way).

(*c*) The risers should be of iron, either solid or of a close pattern.

(*d*) Where an iron staircase is in general use the treads and landings should be finished with a surface of approved non-slippery material, as distinguished from perforated iron or chequered iron plates.

(*e*) All windows and similar openings by or near any such staircase should be glazed with fire-resisting glazing, and, where necessary, the sashes and frames should be fixed.

(*f*) A balustrade of a close pattern at a suitable height should be provided on each side of the flights and round the landings. If balusters be used, they should be not more than 6 in. apart.

(*g*) The staircases should deliver into the outer air, at the ground level, into a public way or thoroughfare, or some large open space.

III.—*Generally as to Staircases.*

Position.—(*a*) Internal staircases should be placed next to an outer wall, and be so arranged that persons enter them from any floor level in the direction of descent.

Lighting and Ventilation.—(*b*) Internal staircases should be properly lighted and ventilated by windows.

Treads and Risers.—(*c*) The treads of the staircases should be not less than 10 in. wide clear of nosings, and the risings not more than 7½ in. high.

Handrails.—(*d*) Staircases should be provided with handrails fixed upon both sides thereof, and continued round the landings and chased into the end of newel walls where these occur.

Width of Staircases, etc.—(*e*) Where the doorways or staircases may be used as means of escape by not more than 200 persons, they should be not less than 3 ft. 6 in. wide.

(*f*) Where the doorways or staircases may be used as means of escape by more than 200 persons, or by more than 100 persons on any one floor, they should be not less than 4 ft. 6 in. wide.

Doorways to Staircases.—(*g*) The doorways for access to and exit from the staircases should in all cases be of the width in the clear mentioned above when the doors are open.

(*h*) All doorways leading to staircases should be provided, where necessary, with fire-resisting lobbies, and should be fitted with doors of fire-resisting materials (oak, teak, jarrah, karri, or other hard timber of not less than 1¾ in. finished thickness) in two folds hung so as to open in the direction of exit, or to swing both ways clear of steps, landings, passageways, and footways. Such doors must be fitted with springs, weights, or other approved appliances to close them after use.

The frames of the doors should be bedded solid to the walls or partitions.

Steps, Flights, and Landings.—(*i*) Staircases should be arranged in straight flights, without winders; each flight should consist of not more than fifteen steps; landings should be provided at the top and bottom of each flight; the steps and landings should be of the full width of the staircases.

Landing Spaces.—(*j*) Landing spaces not less than 2 ft. 6 in. wide should be provided between the steps of the flights and the escape doorways leading to and from the staircases.

Supports and Enclosures.—(*k*) All supports to internal fire-resisting staircases and their enclosures should be of fire-resisting materials, and all iron-work supporting internal staircases and their enclosures should be protected by plastering or other incombustible or non-conducting external coating not less than 2 in. in thickness.

Doors Affording Access to Roof.—(*l*) Doors at the head of staircases affording access to the roof should be glazed in the upper panels with ordinary glass.

IV.—*External Iron Gangways and Balconies.*

Materials to be Used.—(*a*) These gangways and balconies should be supported on dead bearings and be provided with solid floors of incombustible materials; if perforated iron flooring be used the perforations should not exceed ¾ in. across each way.

Balustrades.—(*b*) A close balustrade not less than 3 ft. 6 in. high should be provided to these gangways and balconies.

V.—*Enclosure and Position of Lifts.*

Position.—(*a*) Lifts, excepting passenger lifts constructed within the open wells of staircases and enclosed only with metal grilles, should not be placed near to escape staircases, and should not be connected directly therewith by means of openings or otherwise.

Enclosure.—(*b*) In buildings where fire-resisting floors are provided, lifts should be enclosed all up with incombustible materials and fire-resisting doors or shutters. When the shaft of the lift is carried up to the roof it should be continued through the roof, and, if covered, thin glass should be used, protected on the outside with strong wire guards.

(*c*) In other buildings where there are large floors undivided by partitions, fixtures, etc., lifts, if placed as far as practicable from the staircases, exits, etc., may be enclosed with fire-resisting materials to a height of 4 ft. above each floor level, and above this with stout wire-mesh guard.

VI.—*Buildings Used for the Storage of Inflammable Liquid.*

Buildings for Storage of Inflammable Liquid.—(*a*) Rooms in which inflammable liquid is stored should be separated from other parts of the building by brick walls and fire-resisting floors and ceilings.

(*b*) Doorways for access to such rooms should be fitted with self-closing, fire-resisting, or iron doors.

(*c*) Adequate ventilation should be provided.

(*d*) Living-rooms, workshops, or workrooms constructed over or communicating directly with any part of a building used for the storage of inflammable liquid, should be provided with exit doorways giving access to some safe position as far as practicable from the storage, and with doors hung to open in the direction of exit with only such fastenings as can be easily and immediately opened from the inside.

VII.—*General.*

Guard Rails.—(*a*) Proper guard rails should be provided to the routes of escape on roofs, etc., and round skylights, lantern lights, and ventilating cowls on the roofs of projecting shops.

Gangways.—(*b*) Clear gangways should be kept up to and between all staircases, gangways, and exits on all floors.

Escape Doors.—(*c*) All escape doors should be made so as to open in the direction of exit, or to swing both ways, clear of steps, landings, passageways, etc.

(*d*) All doors usable as means of escape from both sides should swing both ways and be kept free from all fastenings.

(*e*) All such doors must, if required to be provided with fastenings during the time persons are upon the premises, be fitted during such time with automatic bolts only.

(*f*) In buildings other than residential buildings a portion of the upper panels of all fire-resisting doors usable as means of escape should be glazed with clear fire-resisting glazing, and it is suggested that a portion of the upper panels of all other principal exit doors should be glazed with clear glass, the glass to be at such a height as will enable persons approaching the doors in opposite direction to see each other.

Windows to Open.—(*g*) Windows on the floors above the ground floor facing the public way, street, thoroughfare, or open space, should be made to open easily at cill level to a sufficient height and width to allow a full-grown person to pass through in case of need.

Windows and Doors.—(*h*) Windows and doors affording access to external escape staircases, balconies, bridges, etc., should be marked on the inside in large letters "Exit in Case of Fire."

Theatres, Music-halls, Concert-halls, etc.

Premises to be used for music, dancing, stage plays, or entertainments of a like kind are specially dealt with under the Metropolis Management and Building Acts (Amendment) Act, 1878, and the Metropolitan Board of Works (Various Powers) Act, 1892, and special regulations relating to such premises have been made by the Council.

General Building News.

CHURCH, ELLEL, LANCS.—The Bishop of Manchester recently laid the foundation-stone of the new church of St. John's, Ellel. The estimated cost of the new church is 6,000*l*. The new church is to be in the late Decorated style, and on the plan consists of chancel, a nave of six bays, and north aisle of corresponding length. Four large circular piers will carry a tower and spire at the crossing. On the north side is the organ chamber, with choir vestry, and clergy vestry on the east side of the same. The tower arch on the south side will be temporarily walled up until the south aisle is built. The church is lighted by five two-light clearstory windows on each side, a five-light tracery-headed window in the east gable, and a four-light in the west gable. The tower will be carried up 52 ft., and finished with a parapet and coping, with two-light belfry windows. A square turret staircase is carried up to the parapet at the south-east angle. The tower will eventually be surmounted by a spire 68 ft. high to fimial, with lucernes on four sides. The building will be heated by low-pressure hot water. The work is being carried out by the following local firms:—Masonry, Arthur O. Thomas; carpenter and joiner, James Hatch & Sons; tiling, R. Hall & Sons; plumbing and glazing, Rushton & Pinch. The church is being built from the designs and under the supervision of Messrs. Austin & Paley, Lancaster.

COUNCIL SCHOOL, BYFIELD, NORTHAMPTONSHIRE.—The foundation-stone of Byfield School was laid on the 29th ult. The school, when completed, will provide accommodation for 72 infants and 120 older scholars. There will be a schoolroom, two classrooms, a schoolroom for infants, and a babies'-room, with a cloak-room for girls and infants, and another cloak-room for boys. The classrooms and schoolrooms will have pitch-pine block floors, glazed brick dados 4 ft. high, and plaster above. Glass blackboards will be placed on the walls opposite the scholars; the corridors and cloak-rooms to be paved with hard red Staffordshire quarries, with glazed brick dadoes 6 ft. high. Each room has supplementary windows near the ceiling to enable cross-ventilation, in addition to fresh-air inlet ventilators in the walls, and extract ventilators in the ceilings. The plaster work to be coloured green, and the whole of the internal woodwork stained and varnished. The exterior will have a base of local stone, with rough-cast above, the roofs being finished with Broseley tiles of a brindle colour. The whole of the external woodwork to be painted green, except the sashes, which will be white. The total cost of the building, including furniture, fittings, etc., but exclusive of the site, is 2,280*l*., the builder being Mr. T. Higgs, of Northampton, and the architects are Messrs. Law & Harris, of Northampton.

COUNCIL SCHOOL, CHELTENHAM.—The ceremony of laying the foundation-stone of the new school at Naunton Park—the first of two Council schools which the Education Committee have resolved on erecting—took place a short time ago. The new schools will consist of three departments, viz.—boys', girls', and infants', with a central hall, 78 ft. by 35 ft., jointly for the boys and girls, and a separate hall for the infants, 48 ft. by 24 ft. The classrooms, twenty-one in all, surround the central halls, and are approached therefrom by glazed doors. There are seven for boys, seven for girls, and seven for infants, giving a total of 1,100 scholars. The walls are plastered, with Portland cement dados, and the floors laid with pitch-pine blocks upon cement concrete. The walls of lavatories, cloakrooms, corridors, and central halls all have dados of glazed bricks, brown in colour, and plastered above. There are rooms for teachers, and also rooms where scholars may take their meals. The interior woodwork throughout will be lightly stained and varnished. The warming is by hot water upon the low-pressure system, and for artificial lighting gas will be employed. The exterior walls are to be faced with a rich red brick relieved with grey terra-cotta mouldings, and the roofs covered with Broseley tiles. Messrs. Chatters & Smithson are the architects, and the contract has been let to Messrs. Crane, Ltd., Nottingham, at 12,577*l*.

COTTAGE HOMES, BRADFORD.—In the course of a month the cottage homes for deserving aged poor, which have been erected at Daisy Hill by the Bradford Board of Guardians, will receive their first tenants. The buildings are completed, and their cost has been 6,690*l*. The architects were Messrs. Empsall & Clarkson. The cottages, twenty-eight in number, which, with the administration block, occupy three sides of a large, square enclosed site, are only the first instalment. By-and-by forty more dwellings will be put up, the general scheme being to group them around three spacious quadrangles. The outside walls are faced with cement rough cast, windows and doors having dressings of stone. Adjoining quarries have supplied stone for the slating of the roofs. Each cottage comprises a combined sitting and bedroom, 16 ft. square, with a small scullery and larder attached. There is no painted woodwork, all is of American oak. The administration block, which alone has a second floor, has a splendidly-equipped kitchen, in which will be cooked the principal meal of the day for the whole colony. In the buildings immediately to the right and left of the caretaker's establishment there are dining and recreation rooms, each of which has a verandah provided with seats. These rooms will be used for Sunday devotions. Each of the outer blocks has a bath-room, one for males, the other for females.

TROUNSON MEMORIAL, REDRUTH.—The memorial building erected by the Trounson family to the memories of Messrs. Thomas and Samuel Trounson, of Redruth, was opened recently. Mr. Sampson Hill, architect, prepared the plans for the work, the cost of which was about 1,100*l*.

WESLEYAN HALL AND SCHOOL, LYTHAM.—The foundation-stones of the new mission-hall and school in Albert-street, Lytham, were laid a short time ago. The new structure will cost 3,000*l*. It will be 72 ft. long, 42 ft. wide, and 26 ft. in height from floor to ceiling. The whole of the building will be of brick with Enfield facings and terra-cotta dressings, covered with Velenhelli slates. The floor will be of wood blocks on concrete, with the exception of the porches and cloakroom, which will have tiled floors. A wood dado 3 ft. 6 in. in height will run round the walls throughout. The heating will be on the low pressure water system. Ventilation will be by means of air inlet brackets, ceiling gratings and exhaust ventilation in the roof. Accommodation has been provided for 500, but in the inclusion of the gallery, which runs over the vestibule, 80 extra sittings will be provided. Mr. Herbert Wade, Blackpool, and Mr. Walter Wade, St. Annes, are the joint architects, and Mr. Hy. Mogridge, of Lytham, has secured the general contract, and Messrs. Saunders & Taylor, of Manchester, will carry out the heating and ventilating arrangements.

MUSIC HALLS, WILLESDEN AND TOOTING.—Arrangements have now been completed by Mr. Walter Gibbons to build music-halls at Willesden and Tooting. It is hoped that the Willesden Empire will be ready for opening next Christmas and the Tooting Hippodrome next Easter. In both cases the architect is Mr. Frank Matcham, whose plans provide for the erection of buildings with holding capacities of close upon 4,000 people. The site of the Willesden Empire is in High-street, Willesden, and that of the Tooting Hippodrome at the junction of Tooting-broadway and Mitcham-road.

MISSION-HALL, HIGH FELLING.—A new mission-hall is being erected at High Felling, at a cost of about 2,000*l*., including furniture. The architects are Messrs. Hicks & Charlewood, of Newcastle, and the contractor is Mr. Wm. Hall, of Bensham. The building is of pressed brick, with stone facings, etc.

NORTH-EASTERN HOSPITAL FOR CHILDREN.—Mr. C. A. Leighton prepared the plans and designs for the nurses' home and the laundry which have just been added to the hospital in Hackney-road at an outlay of 12,500*l*. The nurses' home stands in the grounds, and affords accommodation for sixty nurses, with sitting-rooms and separate bedrooms.

PROPOSED NEW HOSPITAL AT POOLE.—Plans for a proposed new hospital at Poole have been prepared by Mr. Walter Andrew, architect, Parkston.

Sanitary and Engineering News.

COMBINED DRAINAGE.—The President of the Local Government Board has written to the Secretary of the Conference of Metropolitan Borough Councils on combined drainage, intimating that he is prepared to consider the representations in the memorial proposed to be submitted to him, but that he does not consider it necessary to trouble a deputation to attend.

ROYAL SANITARY INSTITUTE.—At an examination in hygiene in its bearing on school life, held in Cardiff on July 20 and 21, one candidate presented himself and was awarded a certificate, viz.: D. T. Williams (Cardiff). At an examination in sanitary science as applied to buildings and public works, held in Cardiff on July 20 and 21, seven candidates presented themselves, and the following two candidates were awarded a certificate:—F. C. Chant (Salisbury); R. Lindon (Plymouth).

Foreign.

FRANCE.—A group of scientific establishments is to be erected on a large plot of land in Paris belonging to a religious community, at the angle of Rues St. Jacques and Gay-Lussac. These buildings will be utilised for the Chemistry Institute of the University of Paris, for the Museum of comparative sculpture of the Sorbonne, and for the Oceanographic Institute founded by the Prince of Monaco.——Among the "Envois de Rome" which have been exhibited at the Ecole des Beaux-Arts are measured drawings of the Basilica Æmilia, in the Roman Forum, by M. Hélrard, and some studies in the restoration of the ancient town of Selinus (Selinonte) by M. Hulot.——The "Société de Protection des Paysages de France" has demanded the preservation of the fountain of Vaucluse, and has also protested against a scheme for connecting Mont St. Michel with the mainland, on the ground that it will spoil the picturesque character of the spot.——The Municipality of Calais have commissioned MM. Decroix and Puget to carry out a new Hôtel de Ville, at a cost of 250,000 francs.——The Municipality of Chalons-sur-Saône are erecting a bridge over that river. It will be 186 metres long and is being constructed of reinforced concrete, at a cost of 300,000 francs.——The Municipality of Valenciennes are spending nearly a million francs in important street improvements and architectural schemes, including the enlargement of the Public Library.——The Municipal Council of Paris have commissioned M. Roll and M. Cormon to decorate the vault of the grand front gallery of the Petit Palais, the central dome of which is being decorated by M. Besnard. M. Chartran and M. Georges Picard have been commissioned to decorate the vaults of the two semicircular galleries at the end of the front gallery; and M. Baudouin, the favourite pupil of Puvis de Chavannes, has been appointed to paint in fresco the gallery which immediately surrounds the central garden.——The new Hôtel de Ville at Corbeil has just been inaugurated.——A decorative fountain is shortly to be erected at Beauvais by the Société des Amis des Arts de l'Oise, as a gift to the town. The sculptor is M. Henri Gréber.——Another fountain, of an important monumental character, has been inaugurated at Reims, the joint work of MM. Paul Gasq, Auban, Baralis, and Kary (sculptors), and of M. André Nayoux (architect). This fountain comprises a massive column in stone and bronze, crowned by a globe on which is a winged Victory; at the base a group of symbolical figures represent Commerce, Labour, and the Republic, at the feet of which latter is couched a figure personifying the Marne. The square surbase is adorned with figures representing water genii, who hold vases from which the water flows.——The Municipality of Lyons have had a large group of schools erected, which bears the name of "Groupe des Jacobins."——The jury in the competition for a municipal hospital at Carcassonne have awarded the first premium to M. Bertrand, of Paris.——It is proposed to nominate a fourth Inspecteur-Général des Batiments Civils, in place of the late M. Scellier de Gisors. M. Paulin, a former Grand Prix de Rome, and Professor at the Ecole des Beaux-Arts, is spoken of.——The monument to Chopin, by M. Froment Meurice, is in process of being set up in the Parc Monceau, at Paris. The sculptor, who is one of the best pupils of Chapu, represents Chopin seated at the piano; at his feet is a seated figure of a woman in an attitude of grief; above is a winged figure symbolising the genius of music.——The Municipality of Troyes has commissioned M. Balley, architect (Saintes), and M. Monceau (Paris) to carry out a Hôtel de Ville and a new Post-Office.——M. Patouillard Demoriane has been commissioned to carry out the Ecole des Beaux-Arts at Nancy.——M. Roger Ballu has been commissioned to carry out the restoration of the tower de la Lanterne and the tower of St. Nicolas, at Rochelle, which are classed as Monuments Historiques.——There is talk of raising a monument to Leonardo da Vinci, at Amboise, where he died in 1519.——A historical art exhibition has been opened at Besançon, especially devoted to the works of Fragonard.——The vault of the ancient church of Lamourguier, at Narbonne, has fallen in. It was a curious example of XIIth century work. No attempt will be made to restore it.——The whole quarter of the Bourse at Marseilles is to be rebuilt. It occupies about 65,000 square mètres, of which about 30,000 is to be devoted to new and well-built habitations. About 30 million francs are to be expended.——The death is announced, at the age of sixty-eight, of M. Ambroise Alfred Baudry, architect, brother of the celebrated painter Paul Baudry. He had been a pupil of Hippolyte Lebas and of Louvet. Having been charged with an archæological mission in Wallachia and Bulgaria, he exhibited at the Salon a number of interesting drawings after the monuments of the two countries; and obtained successively medals at the Salon of 1867, at the Great Exhibition of the same year, at the Salon of 1870, and at the Great Exhibition of 1878. He designed the monument erected in Père Lachaise to the memory of his brother.

GERMANY.—The Town Hall at Nuremburg has been restored at a cost of about 300,000 francs, of which 125,000 francs have been spent on the restoration of interior mural decorations (some of which are by Dürer) under the direction of Professor Haggenmühle.——The new Church of St. Mark, at Stuttgart is being erected from plans by Herr Dolmetsch, at a cost of about 456,000 francs.——The St. Godehard Church at Brandenburg has been restored: the exterior restoration was carried out under the superintendence of Herr Schramm, whilst the work of interior decoration was under the direction of Herr Blane.——In the competition for new buildings to be erected in Frankfort the first premium of 4,000 marks was awarded to MM. Reinhardt and Süsenguth, and the second premium of 3,000 marks to Herr Oppenheim.——A new museum is to be erected at Speyer from designs by Professor Gabriel Seidl, at a cost of about 730,000 francs.——At present every taxpayer contributes to the upkeep of street-paving. This is held to contradict the economical principle of give and return. Therefore the Berlin Association of House-Owners has decided to petition the Common Council to institute a tax for the upkeep of street-paving which shall be borne only by owners of road vehicles.——Public baths apparently do not pay in the Fatherland. Herr Höglauer therefore proposes to increase the attractions of these institutions by producing artificial waves in the water. The cooler temperature thus attained would be more strengthening and would be particularly beneficial to those suffering from neurasthenia. Last summer, experiments for mechanical movement were carried out in the Starnberg Lake, near Munich.——This year, on the occasion of the great Art Exhibition in Berlin, the Emperor awarded the Gold Medal for Art to the architect, Herr Franz Schwechten, of Berlin.——The competition for the cemetery buildings, Frankfort-on-the-Maine, was won by Messrs. Reinhardt & Süssenguth, of Charlottenburg. The plans are admirable, and the elevations dignified in their broad, simple treatment.——On July 3 a fire broke out in St. Michael's Church, Hamburg. It was probably caused by carelessness on the part of the workmen engaged in repairing the clock. The tower, 131 metres high, the roof, and the interior of the church were completely destroyed, besides twenty of the surrounding buildings. The church, dating from 1661, had been struck by lightning in 1750 and rebuilt by Prey & Sonnin. It could seat 3,000 worshippers and was considered the finest church in Hamburg.——St. Paul's Church, Munich, designed by Professor G. von Hauberrisser, was consecrated on June 25.——On April 23 were opened the new buildings of the Girls' School, Basle, from designs by Th. Hünerwadel. The façades towards the streets are of yellow Durkheimer sandstone; the roof is slate. The cost amounted to 637,500 francs, or 33·35 francs per cubic mètre measured from the floor of the basement to the upper sine of the main cornice.——The Deutsche Bank, Berlin, is successfully cooled by an installation of running water, temperature 12° C., which not only carries off the heated air, but at the same time purifies it. This system is 35 per cent. more economical than the usual methods employed for cooling the air in crowded halls.——In August last was opened the bridge over the Syra Valley, Plauen, Saxony. It has a span of 90 mètres, which at that date was the largest span of any stone bridge in the world. On the removal of the centring the crown settled 15 cm. without causing any visible cracks. The stone, Phylite, is faced with cement 7 cm. thick, composed of one part of cement to five parts of silver sand, grooved so as to simulate blocks of granite.——Proposals have been set on foot in Vienna to erect a memorial to Wagner.——In Lower Austria prices in the painters' trade have risen 30 per cent. owing to the increased rate of wages and cost of materials.——For many years the upper portion of the Cathedral Tower, Freibourg, Baden, has leaned eastward considerably. It has finally been decided to adopt the American method of dealing with overhanging structures, and to hoist the upper portion 15 mètres back into position. The weight of masonry to be lifted is 4,000 tons, and the work will take two months to complete.——The restoration of St. Sebaldus Church, Nürnberg, has, after eighteen years reached completion. The work was undertaken by Professors G. von Hauberrisser of Munich and J. Schmitz of Nürnberg, at a cost of 1¼ million marks.——The bronze doors of Hildesheim Cathedral, cast in 1015 A.D., have just been analysed and found to contain lead in the remarkable proportion of 11¼ per cent.——On May 25 the Royal Technical University, Hanover, celebrated its jubilee. It was founded seventy-

five years ago by Karmarsch, who directed it for over forty years. The greatest number of students was attained in 1902-3, when its classes were attended by 1,296 men and 282 ladies. In 1899 the University acquired the right of conferring degrees in engineering.——In a lecture on the planning of cities Herr Polivka, of Prague, mentioned the noteworthy fact that in Cologne, where the houses surrounding the Cathedral have been pulled down at great expense, in order to add to the stateliness of the building, voices are now raised demanding that for the self-same reason the houses be rebuilt. Herr Polivka further said that to be a work of art a building must be of such dimensions that the eye can take it in as a whole, in its height as well as in its breadth. In the old houses in Prague the angle of vision rarely reached 39°, whereas in modern houses the angle is increased often to 57°.

AUSTRIA.—Since May 14 all building operations have been suspended in Vienna owing to the lock-out organised by the Society of Builders. The movement was joined by the Society of Tradesmen of Lower Austria, and the numbers thrown out of work amounted to 60,000. This lock-out was the counter-stroke to the boycotting of several contractors who refused to give a minimum daily wage of 5k. and declined to acknowledge the delegates appointed by the workmen. After repeated efforts, terms were arranged on June 28, when it was agreed that this year masons should receive 4·66k. and the two following years, 5·04k., whilst, in cases of dispute, a Commission should sit consisting of three workmen and three contractors.

GRAND DUCHY OF BADEN.—In his annual report on trade and industry in the Grand Duchy, Mr. Ladenburg, the British Consul, observes that under the steady growth of population and wealth the building trade throughout its numerous branches is always active. Year after year more factories have to be built, or old ones enlarged; the number of new and expensive public edifices is astonishing, and, besides, there is a host of fresh dwelling-houses. The new generation of prosperous citizens abandon the gloomy old town houses where their forefathers have vegetated for centuries, and move into the suburbs. The ancient towns and cities level moat and rampart, and change them into public gardens, promenades, wider roads, and ever-spreading villa quarters, bright and cheerful. Apparently the change from a people into a nation is the most important event in the life of a community and race. Everywhere beside Old Germany rises New Germany. One would suppose it to be the richest country in the world. At least, a foreigner might so regard it. But the change does not extend beyond the towns. The country still belongs exclusively to the stolid, unchangeable "bauer," and the grand and beautiful country houses, parks and gardens of other lands are almost totally missing. The interior of the new houses is more remarkable than the exterior; it is eminently artistic, and boasts a new style of furniture that is very tasteful.

THE BUILDING TRADE IN GERMANY.—Mr. Consul-General Francis Oppenheimer, writing from Frankfort-on-Main respecting the trade and commerce of Germany for 1905, observes that the building trade continued lively throughout the year. It was characterised by a tendency, more marked in the rising cities, to do away with comparatively recent and still sound buildings, and to replace them by modern ones; for there is a systematic endeavour to utilise the available space to the best commercial advantage. Many of these schemes were not so much dictated by need as prompted by speculation, for the large building concerns which exist in all important cities must be kept occupied; if there are not sufficient orders they work out schemes of their own, which are carried through with the ready financial assistance of the large banking concerns. There can be no objection, Mr. Oppenheimer thinks, to such a proceeding as long as the upward tendency lasts and as long as proper care is used, but speculative building soon leads to over-speculation, and even to-day there are signs of an over-speculation in several of the larger towns. The estate market was particularly lively during the year. The items which changed hands in Frankfort during 1905 numbered 1,782, and represented a value of 153,736,463 marks, a figure which until then had not been reached; in 1904 the turnover had been 1,122 items, representing a value of 118,030,000 marks; in 1903, 1,347 items, representing a value of 107,400,000 marks; in all preceding years, with the exception of 1899, the value of the turnover did not reach 100,000,000 marks. The mild winter favoured the building trade, which also greatly benefited the iron trade, as modern buildings consist to a great extent of iron construction. Towards the end of the year, however, building was somewhat checked by the stiffness of the money market. The labour market was firm throughout the year; the statistics of the unemployed dropped as low as 0·6 per cent., a rate which has only seldom been reached, and which really signifies that at that time there were practically no unemployed. In fact throughout the year complaints never ceased concerning the scarcity of labour. A number of industries have for years been compelled to draw their workmen from abroad. Thus the percentage of foreign workmen in the coal mining districts continues on the increase; the building trade is forced to engage foreign workmen, and some works, such as ground works, are practically exclusively carried out by foreigners. These foreign workmen originate to a great extent from Italy, Switzerland, Austria-Hungary, Russia, Galicia, and Roumania. A number of German concerns interested in the slate business lodged a complaint that a number of buildings erected at the expense of the Government were covered with foreign slate, while German quarries could have furnished the material required of similar quality, and at the same prices. In reply the Secretary of State for Public Works instructed the respective authorities to insist that an order of February 12, 1903, should be adhered to without exception in the erection of public buildings; it enacts that native produce must, under similar conditions, invariably be preferred to foreign.

Miscellaneous.

PROFESSIONAL AND BUSINESS ANNOUNCEMENTS.—The Pulsometer Engineering Company have opened offices in Manchester at 206, Corn Exchange Buildings, Cathedral-street, with Mr. George Thompson as manager, and their agency with Messrs. F. B. Welch & Co. is terminated.

CHURCH BUILDING SOCIETY.—The Incorporated Society for Promoting the Enlargement, Building, and Repairing of Churches and Chapels held its usual monthly meeting on the 19th inst. at the Society's house, 7, Dean's-yard, Westminster Abbey, S.W., the Rev. Canon C. F. Norman in the chair. Grants of money were made in aid of the following objects, viz.:—Building new churches at Plaistow, S. Matthias, Essex, 100*l.*, and Farnham Common, S. John the Evangelist, near Slough, 100*l.*, and towards enlarging or otherwise improving the accommodation in the churches at Llanfihangel Cwmdu, S. Michael, Brecon, 70*l.*; Brixworth, All Saints, near Northampton, 20*l.*; Dalton-le-Dale, S. Andrew, near Sunderland, 35*l.*; Himbleton, S. Mary Magdalene, near Droitwich, 10*l.*; Llandingat, S. Dingat, near Llandovery, Carmarthenshire, 60*l.*; North Petherton, S. Mary-the-Virgin, near Bridgwater, 30*l.*; and Rushden, S. Mary, near Buntingford, Herts., 20*l.* Grants were also made from the special Mission Buildings Fund towards the completion of the Caius College Mission Church, Battersea, Surrey, 60*l.* (making in all 150*l.*), and towards building a mission church at New Durham, in the parish of Belmont, near Durham, 10*l.* The following grants were also paid for works completed:—Little Ilford, S. Barnabas, Essex, 150*l.*, making in all 250*l.*; Enfield, S. Luke, Middlesex, 100*l.*; Northampton, Christ Church, 200*l.*; Chobham, Holy Trinity, Surrey, 10*l.*; Kirkby Woodhouse, S. John, near Nottingham, 60*l.*; Bounds Green, S. Gabriel, Middlesex, 180*l.*; Abertillery, S. Michael, Mon., 100*l.*, making in all 200*l.*; and East Tilbury, S. Catherine, Essex, 20*l.* In addition to this the sum of 206*l.* was paid towards the repairs of sixteen churches from trust funds held by the Society.

BREAKING UP OF STREETS.—A circular letter has been sent by the London County Council to the Metropolitan Borough Councils respecting the breaking up of streets by public companies and others having statutory powers to do so. The Highways Committee of the London County Council are of opinion that arrangements should be made for works carried out by companies to be as far as possible executed simultaneously at certain times of the year, and they desire to know whether in the event of the County Council promoting legislation to enable them to make regulations to govern the breaking up of streets with a view to securing that regard should be had to the convenience of the public, the economy of space under the streets, and other matters affecting the public interest the Borough Councils would be prepared to support the London County Council in its application.

BUILDING OPERATIONS AND BOROUGH COUNCILS.—The London Master Builders' Association have sent a circular letter to the Metropolitan Borough Councils stating that the Association have had under consideration the regulations and requirements of the various Borough Councils and other public bodies controlling building operations in the Metropolitan area; that they desire to secure uniformity of procedure and practice by the various authorities, and that the Committee of the Council of the Association dealing with the matter would esteem it a favour if the Works Committee of the Council addressed would appoint a time for a conference to discuss the various matters affecting builders—such as licenses for hoardings, opening of roadways, and similar questions—a list of which the Committee of the Association would submit beforehand.

GROVE HALL, BOW BUILDING SITE.—A large company was present at the Mart on Tuesday last, when the above estate was submitted to auction by Messrs. Mark Lidell & Son. The estate consisted of 11¼ acres, and is free from building restrictions, and realised 22,300*l.* It was purchased for building purposes.

Legal.

THE WEST-END ANCIENT LIGHT CASE.

THE hearing was concluded last week in the Chancery Division of the case of Sandons, Ltd. *v.* Duveen, the action brought by the plaintiffs for an injunction to restrain the defendant from building so as to obstruct their ancient lights.

(The facts of the case were fully reported in last week's issue of the *Builder*.)

Mr. Justice Warrington, at the conclusion of Mr. Upjohn's address on behalf of the plaintiffs, and without hearing evidence on behalf of the defendant, in giving judgment, said that the real question that he proposed to determine, and which was sufficient to dispose of the action, was whether upon the plaintiffs' evidence there was sufficient proof that the ancient lights of the plaintiffs, which had been preserved, had been interfered with in a legal sense. In his judgment, if plaintiffs' house were an old house in the technical sense and the defendant's building had been erected according to the plans which they had put forward, then there would have been a substantial interference with the plaintiffs' light sufficient to give a cause of action. But it was not a case of an old house, but a new house, in which certain alterations had been made in several windows receiving light which previously passed through apertures in the old house. Taking the case by the test laid down in the Colls' case, he had to look at what the plaintiffs were entitled to and to whether the erection of the defendant's building would render the plaintiffs' house substantially less comfortable than it was before these things were complained of. Judging the case by this view, he came to the conclusion that the action failed and gave judgment for the defendant with costs.

Mr. W. H. Upjohn, K.C., and Mr. Peterson appeared for the plaintiffs; and Mr. Warmington, K.C., Mr. George Cave, K.C., and Mr. Rolt for the defendants.

TARMAC PAVING ACTION AGAINST THE BRIGHTON CORPORATION.

THE case of the King *v.* the Mayor and Corporation of Brighton came before the Court of Appeal, composed of the Master of the Rolls and Lords Justices Moulton and Farwell, on the 23rd inst., on an application to advance the hearing of an appeal from a judgment of the Divisional Court, consisting of the Lord Chief Justice and Justices Ridley and Darling (reported in the *Builder* of May 1, 1906). In this case the Divisional Court made absolute a rule *nisi* for a writ of *certiorari* to remove into the Court certain orders and resolutions made by the Council of the Borough in July and August, 1905, whereby it was ordered that the treasurer of the Borough should pay to the Public Works Committee two sums of 2,500*l.* and 550*l.* upon the grounds that the expenditure called in question was wasteful, extravagant, and unnecessary, and, therefore, illegal, and that the Corporation had no authority or jurisdiction to make such orders. The rule was obtained on the ground that the cost incurred for laying a certain portion of the Madeira-road at Brighton with tarmac for the purpose of an automobile competition was *ultra vires*.

In the result the application was refused, the Master of the Rolls asserting that the applicants had no more right to have the case expedited than other litigants who had cases coming on in that Court.

FERRO-CONCRETE PILES:
ALLEGED INFRINGEMENT OF PATENT.

MR. JUSTICE WARRINGTON in the Chancery Division last week delivered a considered judgment in the case of Mouchel & Hennibique *v.* E. Coignet, Cowlin, & Sons & G. C. Workman for alleged infringement of letters patent No. 10,203 of 1897 granted to François Hennbique of improvements in piles, quays, and retaining walls, or structures.

The defence was a denial of infringement and a plea that the patent was bad for want of novelty.

Mr. Cripps, K.C., Mr. A. J. Walter, and Mr. Colifax appeared for the plaintiffs; and Mr. Astbury, K.C., and Mr. J. C. Graham for the defendants.

Mr. Cripps, in opening the case, said the substance of the dispute would be whether or not there was subject matter in the patent. He said the patent in question was a very novel one, relating to a reinforced or ferro-concrete pile, the patentee, Hennibique, being a gentleman who was represented in this country by the plaintiff, Mouchel. What the patentee had done was to realise for the first time that you could drive a concrete pile without that pile being shattered by the concussion of the monkey which drove the pile. That was a complete novelty in engineering

Thousands of these piles had been driven with the best results, and now these concrete piles were taking the place of the wooden piles. The patentee seemed to have found out that by using these ferro-concrete piles he had got all the advantages of the wooden pile without any of its disadvantages. The plaintiffs' case was that the defendants had made use of piles of concrete with longitudinal bars of iron cross-tied by clamps and metal caps substantially as described in the plaintiff's specification. The learned counsel read Hennibique's complete specification, which was headed "Improvements in piles, quays, and retaining wall or structures." The patentee, in the specification, said that beton, or concrete strengthened with iron or steel, had already been employed in building construction in various ways, and in the formation of girders and beams of strengthened beton many advantages were obtained by a rational mixture of iron or steel and cement. A capital point for the construction of a practical girder or beam was to connect the bars of metal forming the cord of tension with the cord of compression by means of suitable stirrup pieces, and in a former patent of his he indicated improvement which introduced in the stirrup or cross-pieces which in a girder made of strengthened beton played the part of the suspension rods of the lattice work of metallic girders and insured a perfect resistance of the girder to the severing action under a binding strain. The patentee said he had applied these principles to the construction of piles, sheet piles, and solid uprights or standards which, corresponding to the special conditions of their arrangement or employment, might, according to the strains, the loads, and the pressures to which they were subjected, be assimilated to girders, whether placed on two or more supports or embedded at one end, and so forth. The patentee's claims were as follows:—(1) Piles formed of bars of iron embedded in beton and cross-tied by cramps in such a way as to always form a solid girder practically constructed for supporting the weight of an upper building or construction or any desired lateral horizontal pressures, substantially as described in the drawings. (2) Sheet piles of strengthened beton such as described, characterised by longitudinal grooves, the groove on one sheet pile serving as guide for the ramming of the adjacent sheet pile to a projection formed in the lower part of each sheet pile in proximity to the point; the ultimate filling with cement of the interval between the grooves enabling adjacent sheet piles to be connected together in a perfect manner, thus forming an absolutely tight wall, substantially as described. (3) In piles of the kind described, a metal cap substantially as therein before described and shown in the drawings, for use in ramming, enabling the head of the pile or sheet pile to be entirely encased and to distribute the pressure of the blows of the ram uniformly on all the faces of the head by means of an interposed cushion of sand. (4) The application of piles and sheet piles of strengthened beton, such as described, to the construction of any works or foundations in bad soil, to dams for hydraulic works, quays, and sustaining walls, the consolidation of slopes and the like and their combination with beams or girders of strengthened beton, cross-beams, tie beams, and the like, for the construction of indeformable monolithic works, as well as their combination with planks of strengthened beton for the formation of overhanging stagings, fronts of quay walls, and other like works.

Evidence having been given in support of the plaintiff's case, defendants' case was opened by Mr. Astbury. They did not dispute the piles of strengthened concrete were unknown in England before the plaintiff's patent, but said that strengthened concrete was known and used for many building purposes, and their contention was that the alleged invention was merely the application of the material to another purpose constituting no new invention. They further said that such application had been anticipated.

In the result, Mr. Justice Warrington held that there was sufficient invention to support the patent, and that there had been no anticipation. He further held that there had been infringement by Messrs. Cowlin & Sons in the works they were carrying out at Bristol, and granted an injunction against them with costs. He considered, however, that plaintiffs had failed to prove any infringement against the two other defendants, for whom he entered judgment with costs.

MOOT POINT UNDER THE PUBLIC HEALTH ACT.

THE case of the Mayor and Corporation of Chorley *v.* Nightingale came before a Divisional Court of King's Bench, consisting of Justices Kennedy and A. T. Lawrence, on the 19th inst., on the appeal of the plaintiffs from a judgment of the county court judge of Chorley, an action brought by the plaintiffs to recover from the defendant a proportion of the expenses incurred by the Corporation in paving and making-up a portion of a street. The facts of the case sufficiently appear from the following judgment:

Mr. Justice Kennedy, in reading the judgment of the court, said the appellants asked the court to reverse a decision of the learned county court judge that the respondent could not be charged with a share of certain expenses incurred by the local authority in paving and otherwise making-up a portion of a road or street called Pilling-lane, the question on the appeal turning upon the applicability of the latter portion of the Public Health Act, 1875, section 150, to the facts of the case. On a prior appeal from the county court in the action, it had already been decided that Pilling-lane was an ancient highway repairable by the inhabitants at large. The question then left open by the Divisional Court was, whether the road or street on which the work to the cost of which the respondent was alleged by the appellants to be liable as a frontager to contribute, was done, ought to be treated as a road or street which consisted partly of a highway and partly of added roadway, so as to constitute a street or road of which only a part was repairable by the inhabitants at large within the meaning of the concluding portion of section 150; and therefore a street or road in respect of which, according to the concluding words of that section, the same proceedings might be taken and the same powers be exercised as fully as if the whole of such street or road was a highway not repairable by the inhabitants at large. The county court judge, by his judgment, had negatived this proposition. Hence the present appeal. The contention of the appellants was based on the following facts: The old highway, so far as it actually could be used, either by foot passengers or vehicles—the roadway as he would call it—was bounded by a ditch some 8 ft. broad and 4 ft. deep. This ditch bordered the roadway on the further side of the roadway from the respondent's land. The whole space, including both roadway and ditch, known as Pilling-lane, had from the first been situated within the line of fences—that was to say, there had always existed a hedge or fence both on the side of the respondent's land and on the opposite side, where the land abutting upon the ditch was now owned by the Chorley Colliery Company, and the whole space between the old fences had always been delineated and described as Pilling-lane. The ditch was necessary for the preservation of the roadway. The land on the side owned by the Chorley Colliery Company sloped down towards the road, and the whole of the water from that watershed had naturally drained into the ditch. The water used to pass along the ditch for a certain distance, and was then conveyed under and across the roadway by a conduit on to the land of the respondent. Within the last twenty years a pipe had been placed in the ditch and the ditch had gradually been filled up. This, of course, had added the width of the ditch to the roadway as a space which could be traversed by foot passengers and by carriages. Further, in recent times lessees of the land of the Colliery Company, who had built cottages along their side of Pilling-lane, had, for the convenience of their tenants, altered the line of boundary on their side of Pilling-lane by withdrawing it for a space of about 2 ft. 6 in. from the outer edge of the ditch on that side. No material alteration had been made in the line of the ancient fence of Pilling-lane on the respondent's side of the lane. In that state of facts the contention of the appellants was in the first instance twofold. It was based partly upon the 2 ft. 6 in. addition to the area of Pilling-lane which he had mentioned and partly upon the filling-up of the ditch and the consequent increase of the traversable roadway by some 8 ft. of width. But in the argument addressed to the court by counsel for the appellants, the 2 ft. 6 in. extension—which the county court judge called "the slight alteration to Pilling-lane on the Colliery side"—was not seriously insisted upon as a material point in the case. The appeal was rested upon the "widening," as it was called, of the road by the addition to the space, which was admitted to be an ancient highway, of the surface area created by the filling-up of the ditch. This court was not prepared to say that the learned county court judge was wrong in point of law. So far as it was a judgment of fact, if there was any evidence to support it, this court could not reverse it. He had found, after hearing the evidence and viewing the locality, that the ditch was wholly situated between the old fences of Pilling-lane; that the ditch and conduit were constructed for the passage of water flowing down from the watershed and were necessary to the existence of Pilling-lane, and formed a necessary part of Pilling-lane as a highway; that there had been a dedication of the whole area between the two original fences of Pilling-lane, and that Pilling-lane had not been widened. The principal argument of the appellants' counsel was that a ditch could not in point of law be treated as part of the land dedicated to the public as a highway. It was argued that land could not be treated as part of the highway which could not be travelled over by the foot, or (if it were a carriage-way) by the carriage of the traveller. This court was not persuaded of the correctness of that view. It appeared to that court that the whole of a space including a ditch might be dedicated to the public as a highway, the ditch being treated as an obstruction or excavation, subject to which, so long as the obstruction or excavation continued to exist, the highway was dedicated; but the surface of which, if by natural or other causes the ditch was filled or silted up wholly or partially, thereupon became wholly or *pro tanto* land which must be treated as part of the original highway. They did not see how the Colliery Company or their predecessors in title could legally have extended their boundary to the roadway side of the ditch and so enclosed the area of the ditch, even if by a system of drainage they had rendered the maintenance of the ditch unnecessary for the preservation of the roadway itself. On these grounds they came to the conclusion that the judgment in the court below ought to be affirmed, and the appeal would accordingly be dismissed with costs.

ACTION AGAINST ST. PANCRAS BOROUGH COUNCIL.

THE case of Westlake *v.* the St. Pancras Borough Council came before Mr. Justice Neville in the Chancery Division this week.

Mr. C. E. Jenkins, K.C. (with him Mr. Beaumont), in opening the plaintiffs' case, said his clients were somewhat numerous, having several interests, and by the action they sought to restrain the defendants from so carrying on certain works of theirs adjacent to the property of the plaintiffs in such a way as to create a nuisance. The plaintiffs also claimed damages for past acts of the defendants. The nuisance alleged was first a nuisance caused by vibration set up by the engines used by the defendants in carrying on their business as suppliers of electricity in St. Pancras. The defendants had a large generating station opposite to the plaintiffs' premises and the plaintiffs' case was that these engines caused a vibration to their premises of a nature which made their houses less comfortable and at times really intolerable. Plaintiffs alleged that the nuisance was something more than temporary, and the vibration caused injury to their premises structurally and affected the inhabitants thereof prejudicially. The other ground of complaint arose in connexion with certain dust destructor works that the defendants had on the same site as their electric generating station. The defendants brought to these works the refuse of the parish for the purpose of destroying it. Defendants had also to get rid of clinkers used in their works and the nuisance the plaintiffs complained of was the scattering around from the chimney shaft a sort of grit or dust which covered the plaintiffs' premises if the wind was in that direction and thus interfered with the health of the occupants of the premises and also prevented them from carrying on their respective businesses as beneficially as formerly. Plaintiffs also complained of a nuisance by smell caused by the burning of the refuse and also by a process of what was called "damping down" the clinkers. That was a general view of the case. The defendants had become the undertakers in the year 1894, and they acquired their land about that time. In 1894 they started the supply of electricity in the borough and erected on the land an engine house and put in it five reciprocating engines. The generating station was carried on for a considerable time with those five engines, but whether or not vibration was caused to neighbours by those engines did not matter, because an action was not brought. But in 1902 the defendants decided to largely increase their engine equipment, and in May, 1903, they had got in their engine-house three engines at work of from 700 to 900 h.p. each. The effect of this addition was to set up a serious nuisance by vibration. In 1904 Mr. Westlake, one of the plaintiffs, complained about it in writing, and in November, 1903, the owners of certain houses in Great College-street adjacent to the defendants' works brought an action against the defendants, seeking an injunction to restrain them from causing a nuisance by vibration and also in the way they carried on their dust destructor. In that action, which was tried before Mr. Justice Joyce, the defendants denied any vibration at all, but they set up as an alternative defence that these were probably defects which for the moment somebody might possibly complain of, and that this was due to the engines not being properly balanced and this they said they could put right. In that case, however, the injunction was granted against the defendants, but a stay of the injunction was granted on the footing that within that time the defendants would balance the engines properly, and then there would be no nuisance to anybody. The present plaintiffs were awaiting the result of that action. The defendants, having got the stay, occupied the six months in trying to improve the balancing of their engines, no doubt, but also in buying out the plaintiffs in that action, and he (counsel) rather thought they had bought up the whole of the side of Great College-street abutting on their works. The result of that was that defendants did not worry any more about the injunction, and ultimately, after complaints had been made, the present action was commenced on December 30, 1905.

The case was proceeding when we went to press.

Patents of the Week.

APPLICATIONS PUBLISHED.*

16,414 of 1905.—A. M. ROBERTSON: *Sliding Skylight Window.*

THIS relates to a sliding skylight window made of cast iron with glass let into the sliding panel. The window is set on the roof between the joists, and in opening the panel slides under the boarding between the rafters.

19,656 of 1905.—M. J. ADAMS: *Lavatory Basins.*

This relates to the emptying of what are known as "tip-up" lavatory basins. A waste passage or receiving channel is formed thereon so that when the lavatory basin is tipped the water passes over from the basin into this passage or receiving channel, and from here it is carried to the drain by way of a suitable pocket or funnel, into which it flows from the exit to the passage or receiving channel. The lavatory basin is pivoted to a suitable bracket or otherwise.

21,091 of 1905.—W. S. LAMSON: *A Composition of Matter to be used for Filling the Grooves of the Metallic Plates or Frames of Stair Treads.*

This relates to a composition of matter for filling the grooves of the metallic plates or frames of stair treads, consisting of carborundum, magnesium chloride, and magnesium oxide. The mixture is placed in the grooves of the plates or frames commonly used, and allowed to stand for about four to five hours, and if the surface of the composition is of considerable width may then be smoothed down with a mason's trowel, or otherwise to the tops of the grooves.

27,073 of 1905.—L. HANSON: *Gates.*

This relates to a gate, having hinges adjustable along a vertical rod, and thereby adapted to be swung at any desired height above the ground, and consists in the arrangement of ropes or the like connected to the latch by the intermediary of bell-crank levers, and extending therefrom to winding drums carried by side posts, whereby the latch may be raised and the gate opened.

23,182 of 1905.—T. BRAY: *A Window Sash Lock.*

This relates to a lock for window sashes, mortised into a meeting rail of the lower sash, and having a bolt which is shot by a spring, and is withdrawn and held back by screwing in a key. As soon as the key is taken out of the lock the spring forces the bolt forward, which enters the square hole in the striking plate, and the two sashes are locked together, and can only be opened by the key. The bolt being bevelled, the act of closing the window will cause the striking plate to force back the bolt until the meeting bars of the sashes are even, when the bolt, forced by the spring, will shoot through the square hole in the striking plate.

205 of 1906.—H. A. GEORGE: *Safety Catch for Window Sashes.*

This relates to a safety catch for window sashes, and consists of a hollow tumbler fashioned from sheet metal having an enlarged head and short, curved tail, the said tumbler being pivotally mounted on a fitting having an inverted "U"-shaped vertical bend forming a saddle for the tumbler, and horizontal base flanges for attachment to the upper edges of the lower window sash, the head of the said tumbler engaging with a slot or slots in the vertical side of the upper window sash, or in a metal plate screwed thereto, or with an angular catch projecting from the inside edge of the said side of the upper sash, in such manner as to lock the two sashes together, holes being provided in the tumbler and fitting in line with one another to receive a pin, which, when inserted through the said holes, locks the tumbler in its fallen position.

3,333 of 1906.—T. CROSS: *Walls or Partitions and Means for Constructing the same.*

This relates to the construction of walls or partitions, and consists in the arrangement of suitable blocks which during erection form, owing to their shape, a series of grooves into which a metal band of hoop iron or the like is nailed, this band being also secured to the boundary or wall up to which the partition is built, and if need be to the floor.

5,178 of 1906.—W. R. CARY & C. R. CARY: *Brick Tongs.*

This relates to a brick tong comprising two angular members, one of which has a holding jaw and an intermediate slotted portion, and the other of which has a holding jaw at one end of its opposite end pivotted in the slot.

5,696 of 1906.—A. N. BARTHOLEMEW: *Spring Window Wedge.*

This relates to a spring window wedge for windows and is characterised by forming the wedge of double-bow shape, and attching a chain thereto for the purpose of screwing the wedge to the window easily.

* All these applications are in the stage in which opposition to the grant of Patents upon them can be made.

7,720 of 1906.—C. C. CHANCEY.—*A Glass-retaining Device for Sashes.*

This relates to a glass-retaining device for sashes, and consists in arranging the undercut groove or recess in a more open manner than is usual, so that the woodwork does not overlap the glass, and so that the recess may be as shallow as desired without preventing it performing its function of holding the putty against falling out.

10,286 of 1906.—E. LORENZ: *Brackets for Supporting Scaffolding and the like.*

This relates to a bracket for supporting scaffolding and the like, comprising a back having an anchor plate or like member, a sole, and a stay connecting said back and said sole, the ratio between the depth of the sole and the weight thereof being such that the friction between the anchor plate and material on which it takes a hold, after due allowance for all unfavourable influences, is sufficient to overcome the tensile strain tending to pull the bracket away from the body to which it is attached.

23,260 of 1905.—F. MURRAY: *Traps for Drainage.*

This relates to traps for drainage, and consists in the combination in a self-closing gully or gully-trap of a metal ring with bevelled inner face secured to the gully by means secured through the wall of the gully, a further metal ring and a thin sheet india-rubber ring, this latter resting upon and overhanging the ring, and the former resting upon the india-rubber ring and holding it in position by screws, and a ball float in the gully adapted to rise with the back flow of the water in the drains, and become seated against the india-rubber ring.

SOME RECENT SALES OF PROPERTY:

ESTATE EXCHANGE REPORT.

July 5.—By J. G. VILEAR (at Cheltenham).

Charlton Kings, Glos.—The Ham Hill Farm, 221 a. 2 r. 7 p., f., y.r. 208*l.* £4,000
The Coxhorn Farm, 50 a. 0 r. 16 p., f., y.r. 130*l.* 2,675

July 11.—By BENJAFIELD & WOOD (at Hull).

Sutton-on-Hull, Yorks.—"Tilworth Grange" and 21 acres, f., p. 2,425

July 13.—By BRIDGMAN & SON (at Waltham Cross).

Waltham Cross, Herts.—High-st., "Serancke House" (laundry and stable), f., y.r. 55*l.* 900
Cheshunt, Herts.—Church-la., "Holly Lodge," f., y.r. 60*l.* 850

July 14.—By R. IMESON & SON (at Pateley Bridge).

Fountain's Earth, Yorks.—"Helk's Farm," 261 a. 0 r. 11 p., f., y.r. 100*l.* 625

By SALTER, SIMPSON, & SONS (at Norwich).

Besthorpe, Norfolk.—"The Carr Farm," 238 a. 3 r. 4 p., f., y.r. 200*l.* 3,500
Five enclosures, 14 a. 0 r. 11 p., f., y.r. 15*l.* ... 250

July 16.—By BUCKLAND & SONS.

St. Pancras.—83, Charrington-st., u.t. 38 yrs., g.r. 6*l.* 10s., y.r. 57*l.* 10s. 420

By BRODIE, TIMBS, & CO.

Bow.—10, Caxton-st., u.t. 40 yrs., g.r. nil, y.r. 28*l.* 250

By KING & CHASEMORE.

Ewhurst, Surrey.—Part of "Mapledrake's Farm," 19 a. 3 r. 28 p., f. 600
"Lion's Field," 5 a. 1 r. 24 p., f. 150

By SIMMONS & SONS.

Maidenhead Thicket, Berks.—"Stubbings House" and 64 acres, f. 15,000
"Stubbing's Farm," 227 acres, f. 10,400
Bentley, Hants.—A freehold and copyhold holding, 22¾ acres 1,250
Four copyhold cottages 300

By DILLEY, SON, & READ (at St. Ives).

Fenstanton, Hunts.—The Home Farm, 63 a. 0 r. 24 p., f. 2,500
The Gables Farm, 237 a. 2 r. 17 p., f. and c. 5,000
Hilton End Farm, 57 a. 1 r. 11 p., f., y.r. 50*l.* 1,000
Red Hill Farm, 251 acres, f. 2,750
Various enclosures, 90 a. 2 r. 30 p., f. (in lots). 2,045
An Ozier Holt, 7 a. 1 r. 28 p., f. 300
"Gooseberry Tree Orchard," 42 a. 2 r. 1 p., f. 2,500
"Pleasant View," c., y.r. 32*l.* 500
Two freehold cottages 250

June 17.—By CARTWRIGHT & ETCHES.

Pimlico.—12, Sussex-st., u.t. 25½ yrs., g.r. 9*l.*, e.r. 65*l.* 400

By DAWSON, SON, & TERRY.

Surbiton, Surrey.—Ellerton-rd., "Brookwood," u.t. 91½ yrs., g.r. 5*l.*, e.r. 30*l.* 200
Fulham.—13, Ratcourt-rd., u.t. 65 yrs., g.r. 3*l.* 10s., w.r. 36*l.* 8s. 285

By RUTLEY, SON, & VINE.

Euston-road.—17, George-st., u.t. 18 yrs., g.r. 20*l.*, p. 290
Holloway.—Crayford-rd., f.g. rents 21*l.*, reversion in 60 yrs. 550
Tabley-rd., f.g.r. 7*l.* 7s., reversion in 60 yrs... 200
Harlesden.—30, Baker-rd., u.t. 79 yrs., g.r. 7*l.*, p. 275

By HENRY TUFNELL.

Belvedere, Kent.—Lower Park-rd., "The Homestead" and "Langrick," f. 550
Norman-rd., freehold yard and stabling, p. .. 220

By WYATT & SON (at Havant).

Havant, Hants.—1, 3, 5, and 7, Selborne-rd., f. 400
8 and 10, Waterloo-rd., f. 300
West-st., a freehold building 160

By THORNBORROW & Co. (at Penrith).

Kirkoswald, Cumberland.—A freehold and copyhold farm, 134 a. 3 r. 22 p., y.r. 105*l.* 2,500

By DOLMAN & PEARCE (at Camden Town).

Kentish Town.—26, Raglan-st., u.t. 18 yrs., g.r. 5*l.*, w.r. 39*l.* £135
32, Mansfield-rd., u.t. 71 yrs., g.r. 7*l.* 10s., y.r. 52*l.* 675
108, Mansfield-rd., u.t. 71 yrs., g.r. 7*l.* 10s., y.r. 55*l.* 675
Haverstock Hill.—127, Queen's-cres., u.t. 42 yrs., g.r. 8*l.*, e.r. 55*l.* 475

By J. & S. MOTION (at Masons' Hall Tavern).

Holborn.—Red Lion-pas., The "Queen's Arms," p.h., u.t. 13½ yrs., y.r. 75*l.* with goodwill .. 1,500

July 18.—By FOSTER & CRANFIELD.

Wandsworth.—Wandle-rd., f.g.r. 6*l.*, reversion in 59½ yrs. 150

By FULLER, HORSEY, SONS, & CASSELL.

Hackney Wick.—Windsor-rd., The "Atlas" Aniline Colour, etc., Works, area 54,000 ft. p. 5,000

By HAROLD GRIFFIN.

Batterseа.—14, 16, and 18, Hibbert-st., u.t. 37 yrs., g.r. 6*l.*, w.r. 62*l.* 8s. 240
12, 14, and 16, Usk-rd., w.r. 78*l.*; also l.g.r. 22*l.*, u.t. 46 yrs., g.r. 28*l.* 340
44 and 46, Usk-rd., u.t. 45 yrs., g.r. 4*l.*, w.r. 52*l.* 200
130 to 136 (even), Usk-rd., u.t. 37 yrs., g.r. 6*l.*, w.r. 104*l.* 480
Streatham.—39 and 41, Stockfield-rd., u.t. 87 yrs., g.r. 14*l.*, y.r. 74*l.* 705

By HOBSON, RICHARDS, & CO.

Stamford Hill.—Leabourne-rd., etc., freehold building land, area 9 a. 2 r. 23 p. (in lots).. 11,875

By MULLETT, ROOKER, & CO.

Paddington.—97, Marylands-rd., u.t. 56½ yrs., g.r. 10*l.*, e.r. 80*l.* 550

By PARKHOUSE & PEARSON.

Hammersmith.—5, Lamington-st. (s.), u.t. 73 yrs., g.r. 6*l.*, w.r. 46*l.* 16s. 310

By PERKS & LANNING.

Ashford, Middx.—Ford Bridge-rd., freehold building land, area 3½ acres 375

By NOYS & HOWES (at Sydenham).

Sydenham.—64 and 66, Kirkdale, u.t. 16 yrs., g.r. 16*l.*, e.r. 80*l.* 295

By EDWIN EVANS & A. WELLINGS (on the Estate).

Tooting.—Crowborough-rd., etc., 202 plots of freehold building land (in lots) 16,616

July 19.—By H. J. BLISS & SONS.

Hackney.—30 to 44 (even), Treadway-st., f., y.r. 247*l.* 12s. 2,615
34, 36, 38, 40, 50, 52, 54, and 56, Temple-st., f., w.r. 254*l.* 16s. 2,050
Bethnal Green.—55 to 61 (odd), Fuller-st., u.t. 12 yrs., g.r. 50*l.*, w.r. 145*l.* 12s. 110

By CHESTERTON & SONS.

Regent's Park.—Osnaburgh-st., l.g. rents 40*l.*, u.t. 16 yrs., g.r. 9*l.* 305
Edmonton.—1 to 6, Wellington-ter., u.t. 87 yrs., g.r. 24*l.*, w.r. 146*l.* 500
Norbury.—Norbury Crescent, etc., f.g. rents 414*l.*, reversion in 89 yrs. 12,695

By L. FARMER & SONS.

Willesden.—7, Hillside, u.t. 61 yrs., g.r. 8*l.* 8s., w.r. 55*l.* 395

By W. A. HEAD.

Clapham.—49 and 51, Ferndale-rd., u.t. 64 yrs., g.r. 12*l.* 12s., y.r. 71*l.* 610
Balham.—54, Tantallon-rd., u.t. 93 yrs., g.r. 7*l.* 10s., e.r. 36*l.* 340

By C. C. & T. MOORE.

Commercial-rd. East.—10, 20, 28, and 40, Watney-st., f., y.r. 196*l.* 3,600

By L. NEUMEGEN.

Somerstown.—1 to 9, Wilsted-cottages, u.t. 18 yrs., g.r. 50*l.* 10s., w.r. 157*l.* 6s. 270

By NEWBON, SHEPHARD, & EDWARDS.

Clerkenwell.—Clerkenwell-close, f.g.r. 12*l.* 10s., reversion in 37 yrs. 310
Canonbury.—61 and 63, Canonbury-rd., u.t. 12½ yrs., g.r. 10*l.*, e.r. 80*l.* 250
Hackney.—151 and 157, Clarence-rd. (s.), f., e.r. 76*l.* 950
Tottenham.—1A, 3A, 5A, and 7A, Tynemouth-rd., with workshops and yard, u.t. 96 yrs., g.r. 44*l.*, e.r. 179*l.* 1,050
Bowes Park.—53, Palmerston-rd., f., e.r. 72*l.* .. 1,150
31, 33, and 35, Russell-rd., u.t. 72½ yrs., g.r. 18*l.*, w.r. 97*l.* 16s. 580

By STIMSON & SONS.

Kennington.—25 to 35 (odd), Harleyford-rd., u.t. 31 yrs., g.r. 22*l.* 10s., w.r. 200*l.* 4s. 995
Southwark.—1 to 13, Princess-pl., f., w.r. 230*l.* 2s. 1,000
Lambeth.—14 to 18, Wootton-pl., and 11, Windmill-st., f., w.r. 120*l.* 18s. 850
Camberwell.—14 and 18, Allendale-rd., u.t. 56½ yrs., g.r. 11*l.*, y.r. 64*l.* 635

By WALTON & LEE.

Broomfield, Essex.—"Pudding Fields," 3 a. 1 r. 32 p., f. 100
"Windmill Field," 12 a. 0 r. 17 p., f. 270
Little Waltham, Essex.—A freehold b.h. with off-license, and 7 a. 1 r. 0 p., f. 600
"Low Cottage" and 1 a. 0 r. 21 p., c. 130

July 20.—By BISLEY & SONS.

Rotherhithe.—12, Hothfield-pl., u.t. 56 yrs., g.r. 2*l.* 12s., w.r. 31*l.* 4s. 225

By BROWETT & TAYLOR.

Bermondsey.—1 to 11, Rowley's-buildings, area 4,600 ft., f., w.r. 165*l.* 2s. 830

By C. H. BROWN.

Walworth.—51, Carter-st., u.t. 38 yrs., g.r. 5*l.* 15s. 6d., e.r. 42*l.* 330

By H. DONALDSON & SONS.

Dalston.—16, 24, and 26, Greenwood-rd., u.t. 46 yrs., g.r. 16*l.* 10s., y.r. 110*l.* 975

By FURBERS'.

Strand.—No. 6, f.g.r. 140*l.*, reversion in 14½ yrs. 7,200
Kensington.—Hockley-rd., "York House," f., e.r. 65*l.* 650
King's Cross.—2, 4, and 6, Vernon-st. (s), u.t. 13½ yrs., g.r. 5*l.*, y.r. 190*l.* 6s. 800
Islington.—24, Almeida-st., u.t. 25 yrs., g.r. 8*l.*, y.r. 46*l.* 240

SALES OF PROPERTY,—*Continued on page 162.*

List of Competitions, Contracts, etc.

For some Contracts still open, but not included in this List, see previous issues. Those with an asterisk (*) are advertised in this Number: Competitions, —; Contracts, iv. vi. viii. x.; Public Appointments, xvii.; Auction Sales, xxviii.

Certain conditions, beyond those given in the following information, are imposed in some cases, such as: the advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bonâ-fide tender unless stated to the contrary.

Competitions.

SEPTEMBER 20.—**Sunderland.**—SCHOOL.—Sunderland Borough Council invite designs from local architects in competition for a proposed school on the site of the Day Industrial School, The Green. Premiums of 50*l.*, 20*l.*, and 10*l.* are offered for first, second, and third selected designs respectively. Instructions to competitors and lithographed plans of the site may be obtained from Mr. John W. Moncur, A.M.Inst.C.E., Borough Engineer, at whose office at the Town Hall designs are to be delivered free of cost before 12 o'clock at noon on September 20 next.

NO DATE.—**Oldham.**—SCHOOL.—Oldham Education Committee invite competitive designs from architects practising in the Municipal Borough for a new school in Richmond-street, Westhill. Copies of instructions to architects may be obtained on application to Mr. J. Rennie, Secretary, Education Offices, Oldham.

Contracts.

BUILDING.

JULY 28.—**Bristol.**—SCHOOL.—Bristol Education Committee invite tenders for alterations and additions at Mina-road Council School. The plans may be inspected at the office of Mr. Peter Addie, at the Council House, and on payment of a deposit of 1*l.* 1s., a copy of the specification may be obtained. Tenders, duly endorsed, must be delivered at the Office of the Education Committee, Guildhall, before 10 a.m. on July 28.

JULY 30.—**Dairycoates.**—SIGNAL CABIN.—North-Eastern Railway Directors invite tenders for the erection of a signal cabin at Dairycoates, near Hull. Plans, specification, quantities, and indenture may be seen at the offices of the Company's Engineer, Mr. W. J. Cudworth, at York, or District Engineer, Mr. E. Smith, at Paragon Station, Hull, where detailed quantities and form of tender may be obtained on personal application. Sealed tenders, marked "Tender for Signal Cabin at Dairycoates," to be sent to the Engineer, Mr. W. J. Cudworth, at York, not later than July 30.

JULY 30.—**Leeds.**—WAREHOUSE ADDITION.—For the whole or any of the following trades, viz.:—Bricklayer and mason, carpenter and joiner, plumber and glazier, ironfounder's, painter's, slater's, and plasterer's work required for the building of additional stories to warehouse premises in Skinner-lane, Leeds, also for brick-setting No. 1 Lancashire boiler. Names to Messrs. Thomas Winn & Sons, architects, 84, Albion-street, Leeds, on or before July 30, when bills of quantities will be duly forwarded.

JULY 30.—**West Boldon.**—ADDITIONS.—West Boldon Wesleyan Chapel Trustees invite tenders for proposed additions, comprising classrooms, etc. Plans may be seen, and quantities obtained, on application to the architects, Messrs. W. & T. R. Milburn, F.R.I.B.A., 20, Fawcett-street, Sunderland. Tenders will be received up to 12 o'clock noon on July 30.

JULY 31.—**St. Cleer.**—ADDITION TO FARMHOUSE.—Tenders are invited for the erection of an addition to farmhouse at Little Pellagenna, in the Parish of St. Cleer, in the occupation of Mr. W. J. Edmonds. Plans and specifications can be seen on application to occupier at the farm, or at the office of Mr. Menear Oliver, architect, Bodmin, from whom all particulars can be obtained. Sealed endorsed tenders are to be sent to the architect on or before July 31.

AUGUST 1.—**Darlington.**—SCHOOL ADDITIONS.—Darlington Borough Council invite tenders for the excavator, mason, and bricklayer's work required in the additions and alterations to the Gurney Pease Memorial Schools, Albert Hill. Plans and specification may be seen, and bill of quantities and form of tender obtained, at the office of Mr. George Winter, Borough Surveyor, Town Hall, on depositing a cheque for 2*l.* 2s. Tenders, endorsed "Schools," must be sent to Mr. Hy. G. Stenvenson, Town Clerk, not later than noon on August 1.

AUGUST 1.—**Richmond.**—PREMISES.—The Darlington Co-operative and Industrial Society, Ltd., invite tenders for the erection of branch premises at Richmond, Yorkshire. Quantities can be obtained on application to Mr. L. G. Ekins, architect, Co-operative Wholesale Society, Ltd., West Blandford-street, Newcastle-upon-Tyne. Plans may be seen, if desired, at the offices of the society, Priestgate, Darlington. Tenders to be sent in not later than August 1, sealed and endorsed "Tender for Richmond Branch," and addressed to the Committee of Darlington Co-operative Society.

AUGUST 1.—**Widnes.**—ALTERATIONS TO HOUSE.—The Corporation of Widnes invite tenders for the alterations and repairs to dwelling-house, No. 16, Appleton Village, and certain outbuildings at Victoria Park. Plans and specifications may be seen, and forms of tender obtained, upon application to Mr. John S. Sinclair, A.M.I.C.E., Borough Surveyor, Widnes. Tenders, endorsed "Repairs, 16, Appleton Village, etc.," must be delivered to Mr. H. S. Oppenheim, Town Clerk, Town Hall, Widnes, not later than noon of August 1.

AUGUST 2.—**Rigg.**—HALL.—The various works in connexion with recreation hall at Rigg, Gretna. Plans and specifications at Mount Pleasant School. Estimates, sealed, and marked "Hall," to be lodged with Mr. Farquhar, Mount Pleasant, Rigg, Gretna, not later than August 2 next.

* AUGUST 2.—**West Hampstead.**—HOUSE.—Tenders are required by the Midland Railway Company for stationmaster's house at West Hampstead. Plans and specifications may be seen, and particulars obtained, at the engineer's office, Derby Station, on and after July 26. Sealed tenders (by post) to the Secretary of the Way and Works Committee, Midland Railway, Derby, by 9 a.m. on August 2.

AUGUST 3.—**Tonmawr.**—STABLES.—Stables at the Railway Inn, Tonmawr, near Pontrhydyfen. Plans and specification can be seen at the Railway inn, or at office of Mr. T. Roderick, architect, Ashbrook House, Aberdare, where bills of quantities can be obtained. Endorsed tenders to be sent in to architect not later than August 3.

AUGUST 3.—**Withernwick.**—SCHOOL WORKS.—The Education Committee of the East Riding of the County of York invite tenders for the carrying out of additions and alterations to the offices, etc., at the Council school, Withernwick. Persons desirous of tendering for the work may see the drawings, specification, and obtain forms of tender, on application to the Building Surveyor, County Hall, Beverley, or at the school during the usual hours. Tenders, endorsed "Withernwick School," to be forwarded not later than August 3 to Mr. John Bickersteth, Clerk to the East Riding Education Authority, County Hall, Beverley.

AUGUST 4.—**Hayle.**—STABLE BUILDINGS.—Stable buildings, etc., at Hallankean, Hayle, in the occupation of Mr. J. H. Richards, where the plans and specifications may be seen. Tenders to be sent to Mr. S. Lawrey, Helnoweth, Gulval, on or before August 4.

AUGUST 4.—**Lyme Regis.**—HOTEL.—The Directors of Messrs. Mitchell, Toms, & Co., Ltd., invite tenders for the erection of an hotel adjoining the railway station at Lyme Regis, Dorset, in accordance with drawings and specifications to be seen at the office of Mr. A. W. Yeomans, F.R.I.B.A., architect, Cornhill, Chard, any day after July 26, between the hours of 9 and 6, where all necessary information can be obtained, and also form of tender, upon which alone proposals will be received. Bills of quantities will be supplied on payment of 5*l.* 5s. Sealed tenders must be delivered to the Secretary of the Company before 10 a.m. on August 4, endorsed "Hotel, Lyme Regis."

AUGUST 4.—**Wales Kiveton Park.**—SCHOOL ALTERATIONS.—West Riding C.C. Education Committee invite whole or separate tenders for works in connexion with alterations to Wales Kiveton Park Provided School. Plans may be seen, and quantities obtained, on application to office of Mr. J. Vickers-Edwards, County Architect, County Hall, Wakefield. A deposit of 1*l.* is required. Cheques to be sent to the West Riding Treasurer, County Hall, Wakefield. Sealed tenders, properly endorsed, to be sent to the Architect not later than 10.30 on the morning of August 4.

AUGUST 8.—**Bishopwearmouth.**—CEMETERY LODGE.—Bishopwearmouth Burial Board invite tenders for proposed additions and alterations to the South-east Lodge, Bishopwearmouth Cemetery. Drawings and conditions of contract may be seen, and bills of quantities and form of tender obtained, at the Borough Engineer's Office, Town Hall, Sunderland. Sealed tenders, addressed "To the Chairman of the Bishopwearmouth Burial Board," and endorsed "Tender for Additions and Alterations to Lodge, Bishopwearmouth Cemetery," must be delivered at office of Mr. Fras. M. Bowey, Clerk to the Board, Town Hall, Sunderland, before 12 o'clock noon on August 8.

* AUGUST 8.—**Isleworth.**—IRON STAIRCASE, VERANDAHS, ETC.—Brentford Union invite tenders for the above, to be erected at Isleworth. Plans and specifications can be seen at office of the architect, Mr. W. H. Ward, Paradise-street, Birmingham. Tenders to be sent to Clerk to the Guardians, Union Offices, Isleworth, W., by August 8.

AUGUST 8.—**Terrington St. Clement.**—HOUSE.—For the erection and completion of a dwelling-house at Hay Green, Terrington St. Clement, for the Old Stager Lodge of Oddfellows, Lynn. Drawings, specifications, and conditions may be seen, and further particulars obtained, of Mr. Herb. T. Tilson, architect, 16, Railway-road, Lynn. Sealed tenders to be delivered to the architect not later than noon, August 8, endorsed "Tender for House, Terrington."

AUGUST 11.—**Aberfan.**—HALL.—Hall at Aberfan for the Trustees of the Methodist Church. Plans and specification can be seen at the office of Mr. William Dowdeswell, architect, Treharris. Tenders, endorsed "Hall," to be sent to the Rev. Moses Davies, Aberfan-road, Aberfan, on or before August 11.

AUGUST 11.—**Seaford.**—BOARDING-HOUSE.—For boarding-house proposed to be erected at Seaford, for the Seaford West Company, Ltd. Names of intending contractors to be submitted to Mr. Wm. Lambe, Estate Office, Claremont-road, Seaford, from whom schedules of quantities may be obtained in due course on a deposit of 3*l.* 3s. Tender, sealed and endorsed "Tender for Boarding-house," not later than August 11.

AUGUST 13.—**Barrow-in-Furness.**—COTTAGES.—The Corporation invite tenders for the erection and completion of two cottages in Buccleuch-street, Barrow, for the Abattoir attendants. Further particulars and bills of quantities and forms of tender may be obtained upon application at the office of the Borough Engineer and Surveyor, Town Hall. Sealed tenders, endorsed "Tender for Abattoir Attendants' Houses," must be delivered at the Town Clerk's Office not later than 12 o'clock noon on August 13.

AUGUST 15.—**Lostock Hall.**—SCHOOL.—Lancashire Education Committee invite tenders for the erection of a new public elementary school at Lostock Hall, near Preston. The plans may be seen, and bills of quantities obtained, at the office of the County Architect, Mr. Henry Littler, 16, Ribblesdale-place, Preston, by payment of a deposit of 2*l.* Tenders must be delivered before 12 o'clock noon on August 15, 1906, sealed and endorsed, to Mr. W. S. Woodcock, Council Offices, Bamber Bridge, near Preston.

AUGUST 18.—**Maesteg.**—CHURCH HALL.—Bethania Church, Maesteg, require plans for the extension of their hall and chapel. The plans, with terms for carrying out the work, to be sent to Mr. Thos. Rees, Secretary, 16, Bank-street, Maesteg, not later than August 18. Information can be obtained from the Rev. Iorwerth Jones.

AUGUST 20.—**Wimbledon.**—CART SHED.—Wimbledon Corporation invite tenders for the supply, delivery, and erection complete, at the Depôt, Queen's-road, Wimbledon, of a cart shed, about 165 ft. long by 30 ft. span, with open sides, and consisting of galvanised corrugated iron roofing, steel roof trusses, and rolled-steel stanchions. Detailed plans and specification may be inspected, and forms of tender obtained, on application to the Borough Engineer and Surveyor, Town Hall, Wimbledon. Sealed tenders, on the forms and enclosed in the envelopes provided, to be delivered at the Town Hall on or before noon on August 20.

NO DATE.—**Boola.**—RESIDENCE.—The Trustees of the Catholic Parish of Knockanore invite tenders for the erection of a curate's residence, with out offices, etc., at Boola, co. Waterford, according to plans and specification, which can be seen at the offices of Messrs. J. Hodnett & Son, solicitors, Youghal. The tender should contain the genuine signatures of two solvent persons willing to be the sureties of the contractor for the due execution of the works within the specified time. Tenders to be sent through the post addressed to Rev. Edmond English, C.C., Templemichael, Youghal.

NO DATE.—**Coleford.**—HOUSE.—A doctor's residence at Coleford, in the County of Gloucester, for Dr. J. Rowland Payne. Names to Mr. Ernest G. Davies, M.S.A., architect, 7, Bridge-street, Hereford, and at Monmouth, when plans, specification, and form of tender will be supplied.

NO DATE.—**Deepthwaite.**—HOUSE.—Tenders are invited for the waller's, plasterer's, plumber's, and painter and glazier's work required in the erection of a house at Deepthwaite, near Milnthorpe, for Mr. T. Marshall. Plans can be seen, and quantities obtained, on application at office of Mr. W. A. Nelson, architect, 98, Stricklandgate, Kendal.

NO DATE.—**Leeds.**—LABORATORIES.—Builders desirous of being selected to tender for the proposed mining and metallurgical laboratories of the University of Leeds, should apply in writing (stating whether all or separate trades) to Mr. Paul Waterhouse, architect, Staple Inn Buildings, Holborn Bars, W.C.

NO DATE.—**Leeds.**—WEAVING SHED.—Schedules of quantities can be obtained on application at offices of Mr. Stephen Ernest Smith, F.R.I.B.A., 12, South-parade, Leeds, for the various works required in the erection of a weaving shed in Whitehall-road, Leeds, for Messrs. William Lupton & Co.

NO DATE.—**Melton Mowbray.**—PREMISES.—The Melton Mowbray Co-operative Society, Ltd., invite tenders for the erection of central premises to comprise four shops, assembly-rooms, warehouse, etc., on their land in King's-road. Builders desirous of tendering may see the plans upon application in writing to the Secretary, at the Society's Office, King's-road, when further particulars may be obtained as to time for delivery of tenders, etc.

NO DATE.—**Seacombe.**—METHODIST SUNDAY SCHOOL.—New Primitive Methodist Sunday School, Poulton-road, Seacombe. Quantities and all information on application to Mr. Hy. Harper, architect, 54, Long-row, Nottingham.

NO DATE.—**Tarrington.**—PARISH ROOM.—A parish room, corrugated iron on brick foundation, at Tarrington. Plans and specifications can be had from the Rector, Tarrington.

ENGINEERING, IRON, AND STEEL.

JULY 30.—**Dublin.**—ELECTRIC LIGHTING.—The Improvements Committee of the Corporation of the City of Dublin invite tenders for the electric lighting of the main drainage pumping station, situated upon the Pigeon House-road. Specification, with general conditions and form of tender, may be inspected at the office of the City Electrical Engineer, Fleet-street, Dublin, and may be obtained from him on payment of 10s. 6d. Tenders (sealed and marked "Tender for Electric Lighting of Pumping Station") must be addressed to the Chairman, Improvements Committee, City Hall, Dublin, and be delivered not later than 12 o'clock noon on July 30. Each tender must contain the names of two sureties, who will be prepared to execute a joint and several bond for the due performance of the contract in a sum of 20 per cent. of the contract price.

JULY 30.—**Littleover.**—BRICK CULVERT.—Derbyshire C.C. invite tenders for the rebuilding of a brick culvert situate on the Burton-road, near The Pastures, Littleover. The drawings and specification may be seen, and form of tender obtained, at the office of the County Surveyor, St. Mary's Gate, Derby, between the hours of 10 a.m. and 4 p.m., except on Saturdays, when they may be seen between 10 a.m. and 1 p.m. Tenders, which must be upon the form provided, are to be delivered to Mr. J. W. Horton, County Surveyor, County Offices, Derby, on or before July 30.

JULY 30.—**London.**—TIRES AND FILES.—The Bengal and North-Western Railway Company Directors invite tenders for the supply and delivery of (*a*) carriage and wagon tires; (*b*) files, as per specifications to be seen at the company's offices. Tenders, addressed to Mr. Alexander Izat, Managing Director, 237, Gresham House, Old Broad-street, London, E.C., and marked "Tenders for Tires," or as the case may be, are to be lodged not later than noon on July 30. For each specification a fee of 10s. will be charged, which cannot, under any circumstances, be returned.

JULY 30.—**Warrington.**—STEEL SHAFT.—Warrington Sanitary Works Committee invite tenders for the supply of a mild steel concentrator shaft, 7¼ in. square by 17 ft. 8 in. long, turned up at journals, and having twenty-four cast-iron beater arms attached, all in accordance with particulars to be obtained from Mr. R. Wilson, Manager, Longford Depôt, Warrington. Tenders, securely fastened, must be addressed "The Chairman, Sanitary Works Committee, Town Hall, Warrington," endorsed "Tender for Concentrator Shaft," and delivered not later than July 30.

JULY 31.—**London.**—STEEL SLEEPERS.—The Secretary of State for India in Council is prepared to receive tenders from such persons as may be willing to supply steel sleepers. The conditions of contract may be obtained on application to the Director-General of Stores, India Office, Whitehall S.W., and tenders are to be delivered at that office by 2 o'clock p.m. on July 31.

AUGUST 2.—**Aylesbury, etc.**—BRIDGE REPAIRS.—Bucks C.C. invite tenders for repairs to Holman's Bridge, Buckingham-road, Aylesbury; also for taking down and rebuilding the stone wing walls to the N. arch of Ickford Bridge, near Thame. Plans and specifications may be seen, and further information obtained, at the office of Mr. R. J. Thomas, County Surveyor, County Hall, Aylesbury, where tenders must be delivered before 11 a.m. on August 2.

AUGUST 2.—**Knockraha.**—WATERWORKS.—Cork R.D.C. will on August 2, up to the hour of 12 o'clock noon, receive tenders for construction of waterworks at Knockraha, according to plan and specification, which may be inspected at the board-room, Cork Workhouse. Each party tendering is required to give the names and addresses of two solvent sureties who are willing to join in a bond for the due performance of the work. A deposit of 10*l.* is required with each tender. Mr. John Cotter, Clerk of Council, Board-room, Workhouse, Cork.

AUGUST 4.—**Stoke.**—BOILER.—Stoke-upon-Trent Electricity Committee invite tenders for the supply, delivery, and erection of a water-tube boiler. Specification and form of tender may be obtained from Mr. P. J. S. Tiddeman, Borough Electrical Engineer, on payment of a deposit cheque of 2*l.* 2*s.* Tenders to be sent in, addressed "The Chairman of Electricity Committee, Electricity Works, Stoke-upon-Trent," endorsed "Tender for Boiler," not later than August 4.

AUGUST 7.—**Baggeridge.**—RAILWAY.—Great Western Railway Directors invite tenders for the construction of a branch line to Baggeridge Colliery, near Dudley, about one and three-quarter miles in length. Plans and specification may be seen, and forms of tender and bills of quantities obtained, at the office of the new works engineer at Paddington Station, London, between the hours of 10 a.m. and 4 p.m. Tenders, addressed to Mr. G. K. Mills, Secretary, and marked outside "Tender for Baggeridge Branch," will be received on or before August 7.

AUGUST 7.—**Cradley.**—GOODS SHED.—Great Western Railway Directors invite tenders for the erection of a corrugated iron goods shed, offices, etc., on the Spinners End Goods Branch, Cradley. Plans and specification may be seen, and forms of tender and bills of quantities obtained, at the office of the engineer at Wolverhampton Station, between the hours of 10 a.m. and 4 p.m. Tenders, addressed to Mr. G. K. Mills, Secretary, Paddington Station, London, and marked outside "Tender for Goods Shed, etc., Cradley," will be received on or before August 7.

AUGUST 7.—**London.**—GIRDERS.—Great Western Railway Directors invite tenders for the supply of about 250 tons of steel bridge girders and other iron and steel work of British manufacture. Plans and specification may be seen, and forms of tender and bills of quantities obtained, at the office of the engineer at Paddington Station, London, between the hours of 10 a.m. and 4 p.m. Tenders, addressed to Mr. G. K. Mills, Secretary, and marked outside "Tender for Girder Work," will be received on or before August 7.

AUGUST 7.—**Panteg and Cwmbran.**—FOOTBRIDGES.—Great Western Railway Directors invite tenders for the erection of footbridges in steel at Panteg and Cwmbran, Monmouthshire, respectively. Plans and specification may be seen, and forms of tender and bills of quantities obtained, at the office of the engineer at Paddington Station, London, between the hours of 10 a.m. and 4 p.m. Tenders, addressed to Mr. G. K. Mills, Secretary, and marked outside "Tender for Footbridges," will be received on or before August 7.

AUGUST 7.—**Penrith.**—WALLS, ETC.—Penrith U.D.C. invite tenders for the building of river walls and construction of a steel girder bridge across the River Eamont in connexion with their main outfall sewer. General conditions, specifications, bills of quantities, and forms of tender, may be obtained, and drawings inspected, at the Town Hall upon receipt of a deposit of 2*l.* 2*s.* Full particulars may be obtained from the engineers, Messrs. Brierley, Holt, & Co., of Blackburn and Blackpool, or from their resident engineer, Mr. J. J. Knewstubb, Town Hall, Penrith. Sealed tenders, endorsed "Penrith Sewerage—Contract No. 3," must be delivered to Mr. George Wainwright, Clerk of the Council, Town Hall, Penrith, not later than August 7.

AUGUST 7.—**Weymouth.**—VIADUCT.—Great Western Railway Directors invite tenders for the reconstruction of the viaduct carrying the Weymouth and Portland line over the backwater at Weymouth and the erection of a new station adjacent thereto. Plans and specification may be seen, and forms of tender and bills of quantities obtained, at the office of the engineer at Paddington Station, London, between the hours of 10 a.m. and 4 p.m. Tenders, addressed to Mr. G. K. Mills, Secretary, and marked outside "Tender for Works at Weymouth," will be received on or before August 7.

AUGUST 8.—**Dewsbury.**—METERS, PIPES, ETC.—Dewsbury Gas Committee invite tenders for the supply and delivery during the period ending July 31, 1907, of (1) sulphuric acid; (2) wet and dry gas-meters; (3) cast-iron gas and water pipes. Specifications and forms of tender may be obtained on application to the gas engineer, Mr. Chas. A. Craven, Gasworks, Savile Town, Dewsbury. Tenders, under sealed covers, endorsed "Sulphuric Acid," "Meters," or "Cast-iron Pipes," as the case may be, to be sent to Mr. H. Ellis, Town Clerk, Town Clerk's Office, Town Hall, Dewsbury, not later than August 8.

* AUGUST 8.—**Isleworth.**—WIRING, TELEPHONES, AND BELLS.—The Brentford Union invite tenders for the above, to be fitted at new buildings at Isleworth. Specifications and particulars of Mr. W. H. Ward, Paradise-street, Birmingham. Tenders to be sent to the Clerk to the Guardians, Union Offices, Isleworth, W., by August 8.

AUGUST 9.—**Bolton.**—BOILERS.—The Electricity Committee of the Bolton Corporation invite tenders for the supply and erection of two Lancashire boilers. Specification and form of tender may be had on application to Mr. Arthur A. Day, A.M.Inst.C.E., M.I.E.E., Borough Electrical Engineer, Spa-road, Bolton, on and after July 21. Tenders, endorsed "Tender for Boilers," to be delivered not later than 12 o'clock noon, August 9, addressed to the Chairman of the Electricity Committee, Town Clerk's Office, Town Hall, Bolton.

AUGUST 9.—**Painswick.**—RESERVOIR.—Stroud Water Company Directors invite tenders for supplying materials and constructing a reservoir at Painswick. Also for the providing and laying of about 9,163 yds. of 6-in., 4-in., C.I. mains, and 1¼-in., 1-in., and ¾-in. galvanised piping, together with the necessary bends, T's, valves, etc., from Cashes Green to Painswick, Gloucestershire, in accordance with plans and specifications, which may be inspected at the company's office, 13, Kendrick-street, Stroud, on Mondays and Fridays. Tenders, to be endorsed "Extension to Painswick," are to be sent to the Secretary of the Company, 181, Queen Victoria-street, London, on or before August 9.

AUGUST 9.—**Swansea.**—STEEL RAILS.—The Swansea Harbour Trustees invite tenders for the supply of 150 tons of new, slightly-defective, or second-hand flat-bottomed steel rails, weighing about 75 lb. to the yard. Delivered free at the Prince of Wales Dock, Swansea. Tenders, sealed, and marked outside "Tenders for Rails," should be addressed and delivered to Mr. Talfourd Strick, Clerk, Harbour Offices, Swansea, at or before 10 a.m. on August 9.

AUGUST 11.—**South Shields.**—TRAMWAY CONSTRUCTION.—South Shields Tramways Committee invite tenders for the constructional work and paving thereto for the carrying out of the permanent way and track, including steel rails, points, crossings, and other auxiliary work for the Boldon-lane and Hudson-street extension of the South Shields Corporation Tramways. 3 furs. 1.20 chs. double lines, equal to about 6 furs. 2.40 chs. single track. Copies of the specification and quantities, including conditions and form of tender, and also forms of contract, can be obtained, and the general and detail drawings seen, at the office of Mr S. E. Burgess, M.I.C.E., Borough Engineer and Surveyor, Chapter-row. Tenders, on forms supplied, sealed and endorsed "Tender for Tramways Permanent Way, Boldon-lane Extension," must be delivered to Mr. J. Moore Hayton, Town Clerk, at his office, Court Buildings, South Shields, on August 11.

AUGUST 13.—**Dublin.**—IMPROVEMENT WORKS IN CONNEXION WITH STEAM GENERATING APPARATUS AND HOT WATER SUPPLY.—Dublin Public Health Committee invite tenders for calorifiers, drying horses, economiser, and masonry work, in connexion with the steam generating apparatus and hot water supply at the baths and wash-houses, Tara-street, Dublin, in accordance with plans and specification, copies of which may be inspected at the office of the City Architect, Municipal-buildings, Cork Hill, Dublin, daily, from 11 a.m. to 4 p.m., Saturdays excepted. Copies of the plan, specification, and form of tender may be obtained in the City Treasurer's office, on lodgment of 3*l.* Sealed tenders, addressed to the Chairman of the Public Health Committee, are to be delivered at the office of the Public Health Committee, Municipal-buildings, Cork Hill, not later than 4 p.m. on August 13.

AUGUST 21.—**Sheffield.**—CONVENIENCES.—Sheffield Health Committee invite tenders for the work required in connexion with underground conveniences adjoining the Town Hall in Surrey-street. Specification and plans may be seen, and quantities obtained, at the office of Mr. Chas. F. Wike, C.E., City Surveyor, Town Hall, Sheffield on payment of 1*l.* 1*s.* (21*s.*). Tenders, endorsed "Town Hall Conveniences," are to be sent in not later than 6 p.m. on August 21, addressed to "The Chairman and Members of the Health Committee, City Surveyor's Office, Town Hall, Sheffield."

No DATE.—**Swansea.**—LOCK GATES.—The Swansea Harbour Trustees invite tenders for three pairs of steel lock gates, together with three pairs of direct-acting hydraulic presses for opening and closing the same, with all necessary valves, pipes, and connexions. On and after July 30 drawings may be inspected between 11 a.m. and 4 p.m. at the office of the Trustees' Engineer, Mr. A. O. Schenk, M.Inst.C.E., Harbour Offices, Swansea, and copies of the drawings, specification, conditions, and forms of, and instructions for, tender may be obtained of Mr. Talfourd Strick, Clerk, Harbour Offices, Swansea, on payment of 5*l.* 5*s.*

MISCELLANEOUS.

JULY 30.—**Epsom.**—PETROLEUM.—The Epsom R.D.C. invite tenders for the supply of about 7,000 galls. of "Royal Daylight" American refined petroleum, delivered in 500 gallon lots as required to the Outfall Works, Cobham, Surrey, between August 1, 1906, and March 31, 1907. Particulars and form of tender can be obtained from Mr. F. A. Pratley, Surveyor to the Council, Waterloo-road, Epsom, to whom samples must be sent. Tenders to be forwarded to Mr. W. O. Reader, Clerk, "Lonsdale," Epsom, marked outside "Tender," on or before July 30.

JULY 30.—**Settle.**—ROAD ROLLER.—R.D.C. of Settle invite tenders for the supply of a 10-ton steam road roller, single cylinder, fitted with attachment for Morrison's scarifier. Further particulars can be obtained from Mr. W. A. Stuart, Surveyor to the Council, Town Hall, Settle. Sealed tenders, with detailed estimate, and stating date for delivery, marked "Tender for Steam Roller," must reach Mr. T. E. Pearson, Clerk, Town Hall, Settle, not later than 12 o'clock noon of July 30.

JULY 30.—**Wigston Magna.**—SCAVENGING.—Wigston Magna U.D.C. invite tenders for the cleansing of earth closets, privies, ashpits, and cesspools, removal of house refuse from premises, and the cleansing of the streets in Old Wigston (All Saints', Central, and St. Woolstan's Wards), from August 14, 1906, to March 31, 1907. Particulars of the duties can be ascertained from Mr. W. G. J. Clark, Sanitary Inspector to the Council, Blaby-road, Wigston Magna. Tenders, marked "Scavenging," must be sent to Mr. A. H. Burgess, Clerk to the Council, 1, Berridge-street, Leicester, not later than 10 a.m. on July 30.

JULY 31.—**Bedwellty.**—FURNITURE.—Bedwellty Guardians invite tenders from furniture manufacturers for furnishing the new board-room at the Tredegar Workhouse. Drawings and specification may be seen, and further particulars obtained, from Messrs. James & Morgan, FF.R.I.B.A., architects, Charles-street Chambers, Cardiff. Tenders, sealed and endorsed "Tender for Furnishing," to be delivered to Mr. Herbert J. C. Shepard, Clerk to the Guardians, Tredegar, not later than July 31.

JULY 31.—**Rhondda.**—TRAMWAY MATERIALS.—Rhondda U.D.C. invite tenders for the supply of the following tramroad materials, delivered free on rail at the Old Dunraven sidings of the Taff Vale Railway, Blaenrhondda, Glam.:—(1) 80 to 110 tons of new, slightly-defective F.B. steel rails, 30lb. to 35lb. to the yard; (2) the necessary quantity of fish-plates and bolts to match the rails offered; (3) ten to twenty sets of points and crossings (long and short partings) to match the rails. The gauge of the tramroad is 2 ft. 9½ in.; (4) 2 to 4 tons of dogs; (5) 2,000 to 4,000 Baltic sleepers, rectangular, 6 ft. by 8 in. by 4 in.; (6) 2,000 to 4,000 half-round sleepers, 6 ft. by 8 in. by 4 in. All sleepers to be uncreosoted. Tenders may be offered for the whole or any of the above items, and tenderers are requested to state the earliest date upon which they are prepared to guarantee delivery of goods. Any further particulars required may be obtained upon application to Mr. J. E. Hughes, Waterworks Engineer, Treherbert, Glam. Sealed tenders, endorsed "Tender for Tramroad Materials," and addressed to "The Chairman of the Waterworks Extension Committee," at the Council Offices, Pentre, Glam., must be delivered not later than 10 a.m. on July 31.

AUGUST 1.—**Bathgate.**—CUTTING TRACKS.—Bathgate District Committee invite tenders for cutting tracks for cable in connexion with their electric lighting supply. Specifications may be obtained from Mr. J. G. B. Henderson, County Clerk, Linlithgow, and sealed tenders, endorsed on the envelope, "Tender for Trenching," must be returned to him not later than August 1.

AUGUST 1.—**Bathgate.**—ELECTRIC CABLE.—The Bathgate District Committee desire offers for laying 1,170 yds. of electric cable. Specifications may be obtained from Mr. J. G. B. Henderson, District Clerk, Linlithgow, and sealed tenders, endorsed "Tender for Cable," must be returned to him not later than August 1.

AUGUST 1.—**Widnes.**—TAKING DOWN, ETC.—The Corporation of Widnes invite tenders for the taking down and removal of dwelling-house No. 14, Appleton, and certain outbuildings at Victoria Park and recreation ground. Plans and specifications may be seen, and forms of tender obtained, upon application to Mr. John S. Sinclair, A.M.I.C.E., Borough Surveyor, Widnes. Tenders, endorsed "Taking Down of 14, Appleton," must be delivered to Mr. H. S. Oppenheim, Town Clerk, Town Hall, Widnes, not later than noon of August 1.

AUGUST 3.—**Nottingham.**—URINAL FITTINGS.—Nottingham Health Committee invite tenders for taking out the old fittings and supplying and fixing new urinal fittings and making other alterations to the existing urinals at Derby-road and Commercial-square, St. Ann's Well-road. Plans may be seen, and specifications and forms of tender obtained, from Mr. Frank B. Lewis, City Architect, Guildhall, on payment of a deposit of 1*l.* 1*s.* Sealed tenders to be delivered to Mr. Samuel G. Johnson, Town Clerk, Guildhall, Nottingham, at or before 10 a.m. on August 3.

AUGUST 4.—**Darlington.**—SCAVENGING.—Darlington R.D.C. invite tenders for scavenging the whole of the township of Haughton-le-Skerne. For forms of tender and conditions, apply to Mr. John Robinson, Sanitary Inspector, Union Offices, Darlington. Tenders to be sealed and endorsed "Tender for Scavenging Haughton-le-Skerne Township," to be sent to Mr. Chas. H. Leach, Clerk to the Council, Union Offices, Darlington, before noon on August 4.

AUGUST 11.—**Atcham.**—ROLLER.—Atcham R.D.C. invite tenders for the hire of a 10-ton steam roller, etc., from October 1, 1906, to November 30, 1906, and from March 1, 1907, to May 31, 1907, are invited. Particulars may be had on application to Mr. Joseph Everest, Clerk to the Council, St. John's Hill, Shrewsbury; or the Surveyor, Mr. T. Fortune, of Pontesbury. Also for a man and horse for the Council's water cart to work with the steam roller. Sealed tenders must be sent to Clerk not later than August 11, marked on outside "Steam Roller" or "Man and Horse," as the case may be.

PAINTING, etc.

JULY 30.—**Barnstaple.**—PAINTING.—Tenders are invited for the colouring and painting of certain rooms in the Art School. Specifications may be obtained from the caretaker. Tenders, in writing, to be delivered to Mr. George W. F. Brown, The Square, Barnstaple, Secretary, marked "Tender for Painting," on or before July 30.

JULY 30.—**Croydon.**—PAINTING.—Croydon Guardians invite tenders for internal painting and decorating work at the Union Offices. The specification, conditions of contract, and form of tender may be obtained at the office of Mr. Henry Berney, architect, 104, George-street, Croydon, Surveyor to the Guardians, upon depositing the sum of 2*l.* 2s. The contractor will be required to enter into a contract and bond, with two sureties approved by the Guardians, for the due performance thereof. Sealed tenders, marked "Tender for Painting, etc.," addressed to Mr. Harry List, Clerk to the Guardians, Union Offices, Mayday-road, Thornton Heath, Surrey, must be delivered not later than 4 o'clock p.m. on July 30.

JULY 30.—**Gravesend.**—PAINTING.—Gravesend Education Committee invite tenders for the internal decoration of King-street and Wrotham-road Schools. Specification may be seen at the Borough Surveyor's Office, Town Hall, and endorsed tenders are to be delivered to office of Mr. H. H. Brown, Town Clerk, 14a, Windmill-street, not later than July 30.

JULY 30.—**Warrington.**—PAINTING.—Warrington Electricity and Tramways Committee invite tenders for:—(1) Painting tramway poles and brackets; (2) painting electric light standards. Particulars can be obtained on application to Mr. F. V. L. Mathias, Borough Electrical and Tramways Engineer, Howley, Warrington. Tenders must be sealed with wax, endorsed "Tender for Painting Poles," and delivered not later than 12 o'clock noon on July 30, addressed to the Chairman of the Electricity and Tramways Committee, Town Hall, Warrington.

JULY 31.—**Manchester.**—PAINTING.—Manchester Libraries Committee invite tenders for painting at the Bradford Library. Specification may be obtained on application to the City Architect, Town Hall, Manchester, on payment of 1*l.* 1s. Sealed tenders (enclosed in the official envelope) will be received at the City Architect's Office not later than 9 a.m. on July 31.

AUGUST 2.—**Manchester.**—PAINTING.—Manchester Parks Committee invite tenders for painting required at Ardwick Green, Birch Fields, Cheetham, Gorton, Bradford, and Whitworth Parks. Specifications may be obtained at the City Architect's Office, Town Hall, upon payment of 1*l.* 1s. each. Separate sealed tenders, enclosed in the official envelope, to be delivered at the above office not later than 9 a.m. on August 2.

NO DATE.—**Colchester.**—PAINTING, ETC.—For painting and decorating Eld-lane Chapel, Colchester. Messrs. Baker & May, architects, Colchester.

NO DATE.—**Longton.**—PAINTING.—Painting, Colouring, etc., at the under-mentioned schools, within the borough, viz.: Woodhouse, Florence, High-street, Edensor, St. James's, Normacot. Specifications and other particulars may be obtained on application to Mr. J. W. Wardle, A.M.Inst.C.E., Borough Surveyor, Court House, Longton.

ROADS, SANITARY, AND WATER WORKS.

JULY 30.—**Amble.**—STREET WORKS.—Amble U.D.C. invites tenders for public street improvements in High-street and Percy-street. Plans and particulars of the work can be seen at the surveyor's office, where tenders will be received up to July 30, at 6 o'clock. W. Gibson, surveyor, 94, Queen-street, Amble.

JULY 30.—**Romford.**—KERBING.—Romford R.D.C. invite tenders for supplying and fixing best quality new Norway granite kerb (flat), as follows, viz.:—Hornchurch Parish, about 940 ft.; Rainham Parish, about 575 ft.; Upminster Parish, about 479 ft. Specification, with form of tender annexed, and full particulars can be obtained on application to Mr. George Lapwood, Highway Surveyor, Victoria-road, Romford. Sealed tenders, endorsed "Tender for Kerbing," must reach Mr. William Smith, Clerk, Council Offices, 13, North-street, Romford, not later than July 30.

JULY 30.—**Warrington.**—STREET WORKS.—Warrington Paving and Sewerage Committee invite tenders for the forming and paving of the following streets:—Parr-street, Navigation-street (footpath). Drawings, specifications, etc., may be seen, and forms of tender, bills of quantities, and all further information obtained, at the office of the Borough Surveyor, Town Hall, on payment of a deposit of 1*l.* 1s. Tenders must be delivered before 12 o'clock on July 30.

JULY 31.—**Featherstone.**—ASPHALTING.—For asphalting portion of playground, Featherstone Provided School (boys). Contractors to make own measurements. Head master will point out portion. Further particulars at Education Offices, Knottingley. Tenders to Mr. Chas. Harris, by July 31.

JULY 31.—**Gosforth.**—ROAD WIDENING.—Gosforth U.D.C. invite tenders for taking down and setting back the boundary wall of the South Gosforth Council School, Station-road; under-setting the north wall of the school building, and forming the added width of roadway. All particulars may be obtained from Mr. Geo. Nelson, Engineer and Surveyor to the Council, Council Chambers, High-street, to whom application should be made for quantities. Tenders, endorsed "Road Widening, etc., South Gosforth Council School," to be sent to Mr. R. Sheriton Holmes, solicitor, Clerk to the Council, Council Chambers, Gosforth, not later than July 31.

JULY 31.—**Knottingley.**—ASPHALTING.—For asphalting portion of playground (about 800 yds.), Knottingley Weeland-road Provided School. Contractors to make own measurements. Further particulars of Mr. Charles Harris, Education Offices, Knottingley. Tenders to be forwarded by July 31.

JULY 31.—**New Hunstanton.**—STREET WORKS.—The U.D.C. of New Hunstanton invite tenders for the making up of part of Northgate in New Hunstanton. The specification and plan can be seen, and particulars obtained, at the office of the Surveyor of the Council, New Hunstanton. Tenders, addressed to Mr. J. S. B. Glasier, Clerk to the Council, Council Offices, New Hunstanton, and marked on the outside "Tender for Private Street Works," to be sent to him on or before July 31.

AUGUST 1.—**Linton.**—SEWERAGE WORKS.—Repton R.D.C. invite tenders for the provision, laying, and jointing of about 1,800 yds. of 9-in. stoneware pipe sewers, together with all manholes and lampholes, the construction of a small sewage tank, laying out irrigation area, and other works. Plans and specification may be seen, and bills of quantities obtained, at the offices of the engineers, Messrs. Willcox & Raikes, of 63, Temple-row, Birmingham, on payment of a deposit of 3*l.* 3s. Sealed tenders, in envelopes supplied, endorsed "Linton Sewerage, Contract No. 3," to be delivered at office of Mr. C. F. Chamberlain, Clerk to the Council, Union Offices, Burton-on-Trent, not later than 12 noon on August 1.

AUGUST 1.—**Merthyr Tydvil.**—CRAIGBERTHLLWYD SEWERAGE SCHEME.—The Corporation of Merthyr Tydvil invite tenders for the supply and delivery of the following pipes, viz.:—910 lin. yds. 30-in. glazed socketted stoneware pipes, 440 lin. yds. 12-in. glazed socketted stoneware pipes, 1440 lin. yds. 9-in. glazed socketted stoneware pipes, 50 lin. yds. 30-in. mild steel tubes. The above to be delivered at Quaker's Yard, or Treharris, as may be directed. Plans and specifications may be seen, and forms of tender obtained, on application at the office of the Borough Engineer. Sealed tenders, endorsed "Sewer Pipes," to be sent to Mr. T. Aneuryn Rees, Town Clerk, Town Hall, Merthyr Tydvil, not later than noon on August 1.

AUGUST 2.—**Rickmansworth.**—STREET WORKS.—Rickmansworth U.D.C. invite tenders for the construction of about 600 yds. of stoneware pipe sewer with manholes and other incidental works in connexion therewith in Copthorne-road, Rickmansworth. Drawings and specifications may be seen, and quantities, form of tender, and all other particulars obtained, on application to the Council's Surveyor, Mr. A. Freeman, at his office, Church-street, Rickmansworth. Sealed tenders, endorsed "Tender for Private Street Works," must be delivered to Mr. H. Lomas, Clerk to the Council, Council Offices, Church-street, Rickmansworth, before noon on August 2.

AUGUST 3.—**Dallas.**—WATER SUPPLY.—The works in connexion with introducing a water supply to the village of Dallas, for the C.C. of Elginshire. Plans and specification may be seen with Mr. Charles C. Doig, C.E., Elgin, and offers will be lodged with him on or before August 3.

AUGUST 7.—**Hemsworth.**—THORPE AUDLIN WATER SUPPLY.—The R.D.C. of Hemsworth invite tenders for the supply of 1,982 lin. yds. of cast-iron socketted water main pipes, 3-in. diameter. They also invite tenders for the cutting and filling of trenches and the laying and jointing of about 1,982 lin. yds. of 3-in. cast-iron water mains at Thorpe Audlin, near Pontefract. Plan, etc., may be seen at the office of Mr. T. H. Richardson, surveyor, Hemsworth, from whom further particulars may be obtained. Tenders are to be sent to Mr. John Scholefield, Clerk to the Council, Hemsworth, near Wakefield, not later than August 7.

AUGUST 8.—**Bedlingtonshire.**—SEWERAGE WORKS.—Bedlingtonshire U.D.C. invite tenders for the construction of the following lengths of sewers, inclusive of manholes, gullies, connexions, and other works:—

1,288 lin. yds.	18-in.	earthenware pipe sewer.
161 lin. yds.	15-in.	earthenware pipe sewer,
72 lin. yds.	12-in.	earthenware pipe sewer,
27 lin. yds.	9-in.	earthenware pipe sewer,

91 lin. yds. 18-in. cast-iron outlet pipe sewer. Drawings and specifications may be seen, and quantities, form of tender, and all other particulars obtained, by appointment, at the office of the Surveyor to the Council, Mr. J. E. Johnston, Front-street, Bedlington. Sealed tenders, endorsed "Tender for Sewer, Bedlington Bank Top," to be sent to Mr. Charles D. Forster, Clerk of the District Council, 24, Grainger-street West, Newcastle-on-Tyne, on or before 9 a.m. on August 8.

AUGUST 8.—**Buglawton.**—SEWERAGE WORKS.—Buglawton U.D.C. invite tenders for the construction of about 1,965 yds. of 6-in., 9-in., and 12-in. pipe sewers, with the necessary manholes, lampholes, ventilating shafts, and other works connected therewith. Drawings and specifications may be seen, and bills of quantities and forms of tender, and all information obtained at the office of Mr. C. Russell Hall, Engineer and Surveyor, Chapel-street, Congleton, on payment of 5*l.* 5s. for each contract. Sealed tenders, endorsed "Sewerage Works," to be delivered to Mr. Arthur Andrew, Clerk, Wagg-street, Congleton, not later than August 8.

AUGUST 8.—**Farnworth.**—PAVING, ETC.—The Farnworth U.D.C. invite tenders for sewering, levelling, paving, metalling, flagging, channelling, and otherwise improving Fletcher-street and Lucy-street. Plans, sections, specifications, and draft contracts may be seen, and quantities obtained, from the surveyor, Mr. W. J. Lomax, 11, Fold-street, Bolton. Tenders, endorsed "Tender for Paving, etc.," to be sent to Mr. W. Tyldsley, Clerk, Council Offices, Farnworth, not later than 10 o'clock on August 8.

AUGUST 11.—**South Shields.**—ROADS.—South Shields Corporation invite tenders for the masons, paviours, and roadworks required in the lowering of roads, widening of carriageways, setting back kerbs, flagging to footways, rebuilding road gulleys, etc., in connexion with the construction of the Hudson-street and Boldon-lane extension of the Corporation Tramways. Forms of tender may be obtained at the office of Mr. S. E. Burgess, M.I.C.E., Borough Engineer and Surveyor, Chapter-row. Tenders, endorsed "Tender for Masons, Paviours, and Roadworks," to be sent in to the Town Clerk's Office, Court Buildings, South Shields, not later than 12 noon on August 11.

AUGUST 13.—**Kerridge.**—SEWERAGE.—Bollington U.D.C. invite tenders for the construction of the sewerage of Kerridge. The works comprise about 1,853 yds. of 7-in. and 8-in. stoneware pipe sewers, together with manholes, lampholes, and other appurtenant works. Plans may be seen, and quantities and form of tender may be obtained, at the office of the Engineer, Mr. W. H. Radford, C.E., Albion-chambers, King-street, Nottingham, on deposit of 2*l.* 2s. A copy of the plans may also be seen at the office of Mr. S. Knight, Clerk, Council Offices, Bollington. Sealed and endorsed tenders to be sent in to Mr. Samuel Knight, Clerk to the Council, Council Offices, Bollington, near Macclesfield, on or before August 13.

STONE, MATERIALS, AND STORES.

JULY 30.—**Chelmsford.**—GRANITE.—Chelmsford Guardians require 100 tons of rough granite for breaking by casual paupers. The granite must be delivered into the store at the Union House, Wood-street, Chelmsford, on or before August 30 next. Persons desirous of tendering for the above supply may obtain forms of tender on application to Mr. W. W. Duffield, Clerk, 96, High-street, Chelmsford.

JULY 30.—**East Dereham.**—GRANITE.—East Dereham U.D.C. invite tenders for 400 tons (more or less) of 2½-in broken granite, and 400 tons (more or less) of 1½-in. broken granite, to be delivered free at the East Dereham Station of the Great Eastern Railway Company before the end of November. Forms of tender may be obtained on forwarding a stamped addressed foolscap envelope to the Surveyor, Mr. H. G. Himson, Theatre-street, East Dereham. Sealed tenders, endorsed "Tender for Granite," to be sent to Mr. B. H. Vores, Clerk to the Council, not later than July 30.

JULY 30.—**Hipperholme.**—GRANITE.—The Hipperholme U.D.C. invite tenders for the supply of dross and granite for the ensuing year. Tender forms may be obtained from Mr. G. Wharton Thompson, surveyor, on or before July 30.

AUGUST 1.—**Cavan.**—GRAVEL.—Cavan U.D.C. will, in the Court-house, Cavan, on August 1, at 4 o'clock p.m., consider tenders for the supply of 1,000 tons of gravel and 300 tons of rough stones (for steam-rolling purposes), at —— per ton, to be delivered at such times, in such places, and in such quantities (for spreading purposes) as the Town Surveyor may direct. The gravel will require to be broken to pass through a 2-in. ring. Tenders to be prepared, sealed and registered, and addressed to the Chairman, U.D.C., Cavan.

AUGUST 3.—**Egypt.**—FILES.—Tenders are required by the Egyptian War Department for 336 doz. files. Tender forms may be obtained from Lieut.-Col. J. H. Western, Queen Anne's Chambers, Westminster, and are returnable to him by August 3.

Public Appointments.

Nature of Appointment.	By whom Advertised.	Salary.	Applications to be in
*CLERK OF WORKS	Denbighshire County Council	3*l.* 3s. per week	Aug. 11
*CLERK OF WORKS	Coventry Education Com.	2*l.* 10s. per week	Aug. 25

Auction Sales.

Nature and Place of Sale.	By whom Offered.	Date of Sale.
*MACHINERY, IRONMONGERY, ETC.—At Phœnix Saw Mills, St. Leonard's-road, Poplar, E.	Joseph Hibbard & Sons	Jy. 31, Ag. 1
*GRAND FREEHOLD BUILDING SITE, 7 and 9, Poultry, E.C.—At the Mart	Edwin Fox & Bousfield	Oct. next

SALES OF PROPERTY.—*Continued from page* 158.

By EDWIN EVANS.

Battersea.—16 and 18, Bridge-rd. West, y.r. 56*l.*, f.; also f.g.r. 6*l.*, reversion in 20 yrs. £955

By CHARLES HALL.

Clapham.—75 and 77, Rectory-gr., u.t. 52½ yrs., g.r. 6*l.* 6*s.*, y.r. 75*l.* 675

14 to 20 (even), Liston-rd., u.t. 60 yrs., g.r. 28*l.*, y.r. 167*l.* 1,250

Battersea.—109, 111, and 113, New-rd., u.t. 37½ yrs., g.r. 12*l.*, w.r. 92*l.* 6*s.* 530

By A. M. NEWCOMBE.

Bermondsey.—56 and 58, Maltby-st., and 26, Larnaca-st., u.t. 7 yrs., g.r. 10*l.*, w.r. 114*l.* 8*s.* 135

Contractions used in these lists.—F.g.r. for freehold ground-rent; l.g.r. for leasehold gr und-rent; i.g.r. for improved ground-rent; g.r. for ground-rent; r. for rent; f. for freehold; c. for copyhold; l. for leasehold; p. for possession; e.r. for estimated rental; w.r. for weekly rental; q.r. for quarterly rental; y.r. for yearly rental; u.t. for unexpired term; p.a. for per annum; yrs. for years; la. for lane; st. for street; rd. for road; sq. for square; pl. for place; ter. for terrace; cres. for crescent; av. for avenue; gdns. for gardens; yd. for yard; gr. for grove; b.h. beerhouse; p.h for public-house; o. for office; s. for shops; ct. for court.

MEETING.

SATURDAY, JULY 28.

Northern Architectural Association.—An Excursion Meeting. Members to assemble at Stockton Station at 3.56 p.m.

TERMS OF SUBSCRIPTION.

"THE BUILDER" (Published Weekly) is supplied DIRECT from the Office to residents in any part of the United Kingdom at the rate of 19s. per annum (52 numbers) PREPAID. To all parts of Europe, America, Australia, New Zealand, India, China, Ceylon, etc., 26s. per annum.

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PRICES CURRENT OF MATERIALS.

*** Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

BRICKS, &c.

	£	s.	d.	
Hard Stocks	1	10	0	per 1000 alongside, in river.
Rough Stocks and Grizzles	1	7	0	" " "
Picked Stocks for Facings	2	17	6	" delivered
Flettons	1	8	0	" at railway depot.
Red Wire Cuts	1	14	0	" " "
Best Fareham Red	3	12	0	" " "
Best Red Pressed Ruabon Facing	5	0	0	" " "
Best Blue Pressed Staffordshire	3	15	0	" "
Do. Bullnose	4	0	0	" " "
Best Stourbridge Fire Bricks	3	14	0	" " "

GLAZED BRICKS.

Best White and Ivory Glazed Stretchers	12	0	0	" " "
Headers	11	0	0	" " "
Quoins, Bullnose, and Flats	16	0	0	" "
Double Stretchers	19	0	0	" "
Double Headers	16	0	0	" " "
One Side and two Ends	19	0	0	" " "
Two Sides and one End	20	0	0	" " "
Splays, Chamferred, Squints	20	0	0	" " "
Best Dipped Salt Glazed Stretchers, and Header	12	0	0	" " "
Quoins, Bullnose, and Flats	14	0	0	" " "
Double Stretchers	15	0	0	" " "
Double Headers	14	0	0	" " "
One Side and two Ends	15	0	0	" " "
Two Sides and one End	15	0	0	" " "
Splays, Chamferred, Squints	14	0	0	" " "
Second Quality White and Dipped Salt Glazed	2	0	0	" less than best.

	s.	d.	
Thames and Pit Sand	7	0	per yard, delivered.
Thames Ballast	5	6	" "
Best Portland Cement	27	0	per ton, "
Best Ground Blue Lias Lime	19	0	" "

NOTE.—The cement or lime is exclusive of the ordinary charge for sacks.

Grey Stone Lime ..... 11s. 6d. per yard, delivered.
Stourbridge Fireclay in sacks 27s. 6d. per ton at rly. dpt.

STONE.

	s.	d.	
BATH STONE—delivered on road waggons, Paddington Depôt	1	6½	per ft. cube.
Do. do. delivered on road waggons, Nine Elms Depôt	1	8½	" "
PORTLAND STONE (20 ft. average)—Brown Whitbed, delivered on road waggons, Paddington Depôt, Nine Elms Depôt, or Pimlico Wharf	2	1	" "
White Basebed, delivered on road waggons, Paddington Depôt, Nine Elms Depôt, or Pimlico Wharf	2	2½	" "

STONE (*continued*).

	s.	d.	
Ancaster in blocks	1	10	per ft. cube, deld. rly. depôt
Bear "	1	6	" "
Greenshill "	1	10	" "
Darley Dale in blocks	2	4	" "
Red Corsehill "	2	2	" "
Closeburn Red Freestone	2	0	" "
Red Mansfield "	2	4	" "

YORK STONE—*Robin Hood Quality.*

Scappled random blocks	2	10	" "
6 in. sawn two sides landings to sizes (under 40 ft. super.)	2	3	per ft. super., "
6 in. rubbed two sides ditto, ditto	2	6	" "
3 in. sawn two sides slabs (random sizes)	0	11½	"
2 in. to 2½ in. sawn one side slabs (random sizes)	0	7½	" "
1½ in. to 2 in. ditto, ditto	0	6	" "

HARD YORK—

Scappled random blocks	3	0	per ft. cube, "
in. sawn two sides landings to sizes (under 40 ft. super.)	2	8	per ft. super., "
6 in. rubbed two sides ditto	3	0	" "
3 in. sawn two sides slabs (random sizes)	1	2	" "
2 in. self-faced random flags	0	5	" "

	s.	d.	
Hopton Wood (Hard Bed) in blocks	2	0	per ft. cube, deld. rly. depôt.
" " " 6 in. sawn both sides landings	2	7	per ft. super. deld. rly. depôt.
" " " 3 in. sawn both sides random slabs	1	0	" "
" " " 2 in. do.	0	8½	" "

SLATES.

In.	In.		£	s.	d.	
20	10	best blue Bangor	13	2	6	per 1000 of 1200 at r. d.
20	12	" "	13	17	6	" "
20	10	first quality "	13	0	0	" "
20	12	" "	13	15	0	" "
16	8	" "	7	5	0	" "
20	10	best blue Portmadoc	12	12	6	" "
16	8	" "	6	12	6	" "
20	10	best Eureka unfading green	15	17	6	" "
20	12	" "	18	7	6	" "
18	10	" "	13	5	0	" "
16	8	" "	10	5	0	" "
20	10	permanent green	11	12	6	" "
18	10	" "	9	12	6	" "
16	8	" "	6	12	6	" "

TILES.

	s.	d.	
Best plain red roofing tiles	42	0	per 1000 at rly. depôt.
Hip and Valley tiles	3	7	per doz. "
Best Broseley tiles	50	0	per 1000 "
Do. Ornamental tiles	52	6	" "
Hip and Valley tiles	4	0	per doz. "
Best Ruabon red, brown, or brindled do. (Edwards)	57	6	per 1000 "
Do. Ornamental do.	60	0	" "
Hip tiles	4	0	per doz. "
Valley tiles	3	0	" "
Best Red or Mottled Staffordshire do. (Peakes)	51	9	per 1000 "
Do. Ornamental do.	54	6	" "
Hip tiles	4	1	per doz. "
Valley tiles	3	8	" "
Best "Rosemary" brand plain tiles	48	0	per 1000 "
Best Ornamental tiles	50	0	" "
Hip tiles	4	0	per doz. "
Valley tiles	3	8	" "
Best "Hartshill" brand plain tiles, sand-faced	50	0	per 1000 "
Do pressed	47	6	" "
Do. Ornamental do.	50	0	" "
Hip tiles	4	0	per doz. "
Valley tiles	3	6	" "

WOOD.

BUILDING WOOD.	At per standard. £	s.	d.		£	s.	d.
Deals: best 3 in. by 11 in. and 4 in. by 9 in. and 11 in.	13	10	0	...	15	0	0
Deals: best 3 by 9	13	0	0	...	14	0	0
Battens: best 2½ in. by 7 in. and 8 in., and 3 in. by 7 in. and 8 in.	11	0	0	...	12	0	0
Battens: best 2½ by 6 and 3 by 6	0	10	0	less than 7 in. and 8 in.			
Deals: seconds	1	0	0	less than best.			
Battens: seconds	0	10	0	" "			
2 in. by 4 in. and 2 in. by 6 in.	9	0	0	...	10	0	0
2 in. by 4½ in. and 2 in. by 5 in.	8	10	0	...	9	10	0
Foreign Sawn Boards—1 in. and 1¼ in. by 7 in.	0	10	0	more than battens.			
¾ in.	1	0	0				

	At per load of 50 ft.						
Fir timber: best middling Danzig or Memel (average specification)	4	10	0	...	5	0	0
Seconds	4	0	0	...	4	10	0
Small timber (8 in. to 10 in.)	3	12	6	...	3	15	0
Small timber (6 in. to 8 in.)	3	0	0	...	3	10	0
Swedish balks	2	10	0	...	3	0	0
Pitch-pine timber (30 ft. average)	4	0	0	...	4	15	0

JOINERS' WOOD.	At per standard. £	s.	d.		£	s.	d.
White Sea: first yellow deals, 3 in. by 11 in.	24	0	0	...	25	0	0
3 in. by 9 in.	22	0	0	..	23	0	0
Battens, 2½ in. and 3 in. by 7 in.	6	10	0	..	18	0	0
Second yellow deals, 3 in. by 1 in.	18	10	0	...	20	0	0
" " 3 in. by 9 in.	17	10	0	...	19	0	0
Battens, 2½ in. and 3 in. by 7 in.	13	10	0	...	14	10	0
Third yellow deals, 3 in. by 11 in. and 9 in.	13	10	0	...	15	0	0
Battens, 2½ in. and 3 in. by 7 in.	11	0	0	...	12	0	0

WOOD (*continued*).

JOINERS' WOOD (*continued*)—	At per standard. £	s.	d.		£	s.	d.
Petersburg first yellow deals, 3 in. by 11 in.	21	0	0	...	22	10	0
Do. 3 in. by 9 in.	18	0	0	...	19	10	0
Battens	13	10	0	...	15	0	0
Second yellow deals, 3in. by 11in.	16	0	0	...	17	0	0
Do. 3 in. by 9 in.	14	10	0	...	16	0	0
Battens	11	0	0	...	12	10	0
Third yellow deals, 3 in. by 11 in.	13	0	0	...	14	0	0
Do. 3 in. by 9 in.	12	10	0	...	14	0	0
Battens	10	0	0	...	11	0	0
White Sea and Petersburg—							
First white deals, 3 in. by 11 in.	14	10	0	...	15	10	0
" " 3 in. by 9 in.	13	10	0	...	14	10	0
Battens	11	0	0	...	12	0	0
Second white deals, 3 in. by 11 in.	13	10	0	...	14	10	0
" " 3 in. by 9 in.	12	10	0	...	13	10	0
" " battens	10	0	0	...	11	0	0
Pitch-pine: deals	18	0	0	...	21	0	0
Under 2 in. thick extra	0	10	0	...	1	0	0
Yellow Pine—First, regular sizes	44	0	0	upwards.			
Oddments	32	0	0	"			
Seconds, regular sizes	33	0	0	"			
Yellow Pine oddments	28	0	0	"			
Kauri Pine—Planks, per ft. cube	0	3	6	...	0	5	0
Danzig and Stettin Oak Logs—Large, per ft. cube	0	3	0	...	0	3	6
Small " "	0	2	6	...	0	2	9
Wainscot Oak Logs, per ft. cube	0	5	6	...	0	6	0
Dry Wainscot Oak, per ft. sup. as inch	0	0	8½	...	0	0	9½
¾ in. do. do	0	0	7	...		—	
Dry Mahogany—Honduras, Tabasco, per ft. super. as inch	0	0	9	...	0	1	0
Selected, Figury, per ft. super. as inch	0	1	6	...	0	2	6
Dry Walnut, American, per ft. super. as inch	0	0	10	...	0	1	0
Teak, per load	17	0	0	...	22	0	0
American Whitewood Planks, per ft. cube	0	4	0	...	0	5	0
Prepared Flooring, etc.—				Per square.			
1 in. by 7 in. yellow, planed and shot	0	13	6	...	0	17	6
1 in. by 7 in. yellow, planed and matched	0	14	0	...	0	18	0
1¼ in. by 7 in. yellow, planed and matched	0	16	0	...	1	0	0
1 in. by 7 in. white, planed and shot	0	12	0	...	0	14	6
1 in. by 7 in. white, planed and matched	0	12	6	...	0	15	0
1¼ in. by 7 in. white, planed and matched	0	15	0	...	0	16	6
¾ in. by 7 in. yellow, matched and beaded or V-jointed brds.	0	11	0	...	0	13	6
1 in. by 7 in. " "	0	14	0	...	0	18	0
¾ in. by 7 in. white " "	0	10	0	...	0	11	6
1 in. by 7 in. " "	0	12	9	...	0	15	0

6 in. at 6d. to 9d. per square less than 7 in.

JOISTS, GIRDERS, &c.

	In London, or delivered Railway Vans, per ton. £	s.	d.		£	s.	d.
Rolled Steel Joists, ordinary sections	7	0	0	...	7	10	0
Compound Girders, ordinary sections	9	0	0	...	10	0	0
Steel Compound Stanchions	12	0	0	...	13	0	0
Angles, Tees, and Channels, ordinary sections	9	0	8	...	10	0	0
Flitch Plates	9	0	0	...	10	0	0
Cast Iron Columns and Stanchions including ordinary patterns	7	10	0	...	8	10	0

METALS.

	Per ton, in London. £	s.	d.		£	s.	d.
IRON—							
Common Bars	8	0	0	...	8	10	0
Staffordshire Crown Bars, good merchant quality	8	10	0	...	9	0	0
Staffordshire "Marked Bars"	10	10	0	...	—		
Mild Steel Bars	8	15	0	...	9	0	0
Hoop Iron, basis price	9	5	0	...	9	10	0
" " Galvanised	17	0	0	...	—		

(*And upwards, according to size and gauge.)

Sheet Iron Black—							
Ordinary sizes to 20 g.	9	10	0	...	—		
" " 24 g.	10	10	0	...	—		
" " 26 g.	12	0	0	...	—		
Sheet Iron, Galvanised, flat, ordinary quality—							
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.	14	0	0	...	—		
Ordinary sizes to 22 g. and 24 g.	14	10	0	...	—		
" " 26 g.	15	0	0	...	—		
Sheet Iron, Galvanised, flat, best quality—							
Ordinary sizes to 20 g.	17	0	0	...	—		
" " 22 g. and 24 g.	17	10	0	...	—		
" " 26 g.	19	0	0	...	—		
Galvanised Corrugated Sheets—							
Ordinary sizes 6 ft. to 8 ft. 20 g.	14	0	0	...	—		
" " 22 g. and 24 g.	14	10	0	...	—		
" " 26 g.	15	15	0	...	—		
Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. by 20 g. and thicker	11	10	0	...	—		
Best Soft Steel Sheets, 22 g. & 24 g.	12	10	0	...	—		
" " 26 g.	14	15	0	...	—		
Cut Nails, 3 in. to 6 in.	9	10	0	...	9	15	0

(Under 3 in., usual trade extras.)

LEAD, &c.

	Per ton, in London. £	s.	d.		£	s.	d.
LEAD—Sheet, English, 3lb. and up.	19	7	6	...	—		
Pipe in coils	19	17	6	...	—		
Soil pipe	22	7	6	...	—		
Compo pipe	22	7	6	...	—		
ZINC—Sheet—							
Vieille Montagne ..... ton	33	0	0	...	—		
Silesian	32	15	0	...	—		
COPPER—							
Strong Sheet ..... per lb.	0	1	1	...	—		
Thin "	0	1	2	...	—		
Copper nails "	0	1	0	...	—		
BRASS—							
Strong Sheet "	0	1	0	...	—		
Thin "	0	1	1	...	—		
TIN—English Ingots "	0	1	10	...	—		
SOLDER—Plumbers' "	0	0	9	...	—		
Tinmen's "	0	0	11	...	—		
Blowpipe "	0	1	0	...	—		

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.

15 oz. thirds	2½d.	per ft. delivered.
,, fourths	1¾d.	,, ,,
21 oz. thirds	3¼d.	,, ,,
,, fourths	2¼d.	,, ,,
26 oz. thirds	4¼d.	,, ,,
,, fourths	3¼d.	,, ,,
32 oz. thirds	5d.	,, ,,
,, fourths	4¼d.	,, ,,
Fluted Sheet, 15 oz.	3¼d.	,, ,,
,, 21 oz.	4¼d.	,, ,,

ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES.

¼ Hartley's	2½d.	per ft. delivered.
⅜ ,,	3¼d.	,, ,,
½ ,,	3d.	,, ,,
Figured and Oxford Rolled "Oceanic" Glass, white	4d.	,, ,,
Do. ,, tinted	5¼d.	,, ,,

OILS, &c.

		£ s. d.
Raw Linseed Oil in pipes	per gallon	0 1 10
,, ,, ,, in barrels	,,	0 1 11
,, ,, ,, in drums	,,	0 2 1
Boiled ,, ,, in pipes	,,	0 2 0
,, ,, ,, in barrels	,,	0 2 1
,, ,, ,, in drums	,,	0 2 3
Turpentine in barrels	,,	0 3 10
,, in drums	,,	0 4 0
Genuine Ground English White Lead	per ton	22 10 0
Red Lead, Dry	,,	21 10 0
Best Linseed Oil Putty	per cwt.	0 7 0
Stockholm Tar	per barrel	1 12 0

VARNISHES, &c.

	Per gallon. £ s. d.
Fine Pale Oak Varnish	0 8 0
Pale Copal Oak	0 10 6
Superfine Pale Elastic Oak	0 12 6
Fine Extra Hard Church Oak	0 10 0
Superfine Hard-drying Oak, for seats of Churches	0 14 0
Fine Elastic Carriage	0 12 6
Superfine Pale Elastic Carriage	0 16 0
Fine Pale Maple	0 16 0
Finest Pale Durable Copal	0 18 0
Extra Pale French Oil	1 1 0
Eggshell Flatting Varnish	0 18 0
White Copal Enamel	1 4 0
Extra Pale Paper	0 12 0
Best Japan Gold Size	0 10 6
Best Black Japan	0 16 0
Oak and Mahogany Stain	0 9 0
Brunswick Black	0 8 6
Berlin Black	0 16 0
Knotting	0 10 0
French and Brush Polish	0 10 0

TO CORRESPONDENTS.

NOTE.—The responsibility of signed articles, letters, and papers read at meetings rests, of course, with the authors.

We cannot undertake to return rejected communications; and the Editor cannot be responsible for drawings, photographs, manuscripts, or other documents, or for models or samples, sent to or left at this office, unless he has specially asked for them.

Letters or communications (beyond mere news items) which have been duplicated for other journals are NOT DESIRED.

All communications must be authenticated by the name and address of the sender whether for publication or not. No notice can be taken of anonymous communications.

We are compelled to decline pointing out books and giving addresses.

Any commission to a contributor to write an article, or to execute or lend a drawing for publication, is given subject to the approval of the article or drawing, when received, by the Editor, who retains the right to reject it if unsatisfactory. The receipt by the author of a proof of an article in type does not necessarily imply its acceptance. The Editor cannot undertake to read and consider articles offered for acceptance unless they are type-written.

All communications regarding literary and artistic matters should be addressed to THE EDITOR; those relating to advertisements and other exclusively business matters should be addressed to THE PUBLISHER, and not to the Editor.

TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than* 10 *a.m. on Thursdays.* [N.B.—We cannot publish Tenders unless authenticated either by the architect or the building-owner; and we cannot publish announcements of Tenders accepted unless the amount of the Tender is stated, nor any list in which the lowest Tender is under 100*l.*, unless in some exceptional cases and for special reasons.]

* Denotes *accepted.* † Denotes *provisionally accepted.*

AYLESBURY.—For new infants' school, for about 100 children, at Waysbury, and minor alterations to existing school, for Bucks County Educational Committee. Quantities by Messrs. W. T. Farthing & Son, 46, Strand, London, W.C.:—

—	New School.	Repairs.	Gravelling.
	£	£ s.	£ s.
G. Gray	1,690	110 0	35 0
A. Francis	1,688	159 0	
—. Richardson	1,632	98 10	45 0
Hollis & Sons	1,619	98 0	33 0
Burfoot & Son	1,589	104 0	38 0
Lock Bros.	1,570	108 19	
E. T. Lovell	1,550	46 10	35 0
H. D. Bowyer	1,495	92 6	52 10
H. Hendry	1,490	88 0	26 0
C. W. Cox & Sons*	1,485	92 0	25 15

ALDERLEY EDGE.—For erecting new post-office, for M. W. B. Stevens. Mr. F. J. Almond, architect, 16, Kennedy-street, Manchester. Quantities by architect:—

Wilson & Toft	£943 0 0	J. K. Coates	£793 0 0
Neill & Sons	891 0 0	L. Brown & Sons	792 5 7
Burgess & Galt	825 0 0	R. Carlyle	780 0 0
Normanton& Son	813 0 0	I. Massey & Sons, Alderley Edge*	758 0 0
D. Eadie	810 0 0		

BATH.—For painting and decorating at the Grand Pump Room and Baths, for the Hot Mineral Baths Committee. Mr. A. J. Taylor, architect, 18, New Bond-street, Bath:—

Sheppard & Son	£178 0	Cotterell Bros., Ltd.	£137 10
W. Pratt	174 0	J. Long & Sons, Bath*	124 13
Hayward & Wooster	155 5		
P. Stapleford	142 17		

BECKENHAM.—For alterations, Crescent-road Congregational Church. Messrs. George Baines & Son, architect, 5, Clement's-inn, Strand, London, W.C.:—

	H. Copeland & Son.‡	E. R. Palmer.
Estimate A	£73 10	£79 10
Estimate B	43 5	48 10
Estimate C	25 5	34 0
Estimate D	11 5	20 0
Estimate E	4 10	4 14

‡ Accepted with modifications.

BLEAN.—For the construction of sewers at Forty Acres, St. Stephen, near Canterbury, for the Rural District Council. Mr. L. T. Ashenden, Acting Surveyor, 29, Westgate, Canterbury:

C. W. Welby	£589 0 0	W. H. Wheeler	£341 16 1
Sturry Building Co.	474 8 0	Hooper, Neary, & Co.	323 0 0
W. J. Adcock	450 0 0	W. Johnson	321 8 3
A. Soan	435 9 6	W. Wilson	318 10 9
S. H. Head	427 0 0	Miller & Christfield	315 16 5
J. W. Edwards	426 5 0	G. Chesswas, Isleworth, London*	297 8 5
Castle & Co.	417 14 0		
G. Browning	365 14 1		
J. Reeves	342 8 0		

BOURNEMOUTH.—For the erection of elementary schools in the Alma-road, for the Education Committee. Mr. F. W. Lacey, F.R.I.B.A., Municipal Offices, Bournemouth. Quantities by Messrs. Hawker & Mitchell, architects, Bournemouth:—
Jones & Seward, Westbourne, Bournemouth* .. £17,097

BROOMHILL.—For new cemetery works, for Chevington Joint Burial Board. Mr. W. Gibson, Surveyor, 94, Queen-street, Amble:—

R. Carse & Sons	£503	R. & G. Brown	£439
A. Douglas	461	R. C. Brown, Amble*	405

[Surveyor's estimate, £429.]

CHISELDON (Wilts).—For erecting pair of cottages at Middle Farm, for Mr. T. J. Dixon. Messrs. Drew & Sons, architects, Regent-circus, Swindon:—

J. Lay	£345 6	W. A. Moulding & Son, Aldbourne, R.S.O., Wilts*	£300 0
R. J. Leighfield	345 0		
Tydeman Bros.	300 0		

CLIPSTONE.—For sinking a well near Waterfield Farm, for Mansfield Corporation. Messrs. G. & F. W. Hodson, engineers, Bank-chambers, Loughborough:—
W. Rollinson & Sons, Basford Iron Works, Nottingham £4,807

DEVONPORT.—For erecting a new administrative building at the Infectious Diseases Hospital, North Prospect, for the Corporation. Mr. J. F. Burns, Borough Surveyor, Municipal Offices, Ker-street, Devonport:—

Pethick Bros.	£1,199 0 0	A. Andrews	£990 0 0
Jenkin & Son	1,094 0 0	J. Cockerell	959 0 0
Pearn Bros.	1,045 0 0	W. G. Perkins	949 15 7
Pearce Bros.	1,045 0 0	F. Stanbury	924 10 0
T. May	1,027 0 0	S. Roberts, Plymouth*	898 0 4½
Matcham & Co.	999 0 0		

DEVONPORT.—For erecting a cart-shed at Pottery Quay, for Devonport Corporation. Mr. J. F. Burns, Borough Surveyor, Municipal Offices, Ker-street, Devonport:—

T. May	£308	D. Veall, Devonport*	£253
Pearce Bros.	297		

FERMOY (Ireland).—For the execution of Clondulane Waterworks, for the Rural District Council. Mr. J. Kilty, engineer, Race Course View, Fermoy:—
T. D. Mahony, Fermoy £120

GUILDFORD.—For (A) constructing small store, external shelter, and pent roof in connexion with casual block, and (B) painting infirmary, for the Guardians. Mr. E. L. Lunn, architect, 36, High-street, Guildford:—
T. Carr, Foxenden-road, Guildford* (A) £83 10 0
Higlett & Son, 24, North-street, Guildford* (B) 79 15 6

HANDSWORTH.—For alterations and additions to cottage at Witton Sewage Pumping Station, for the Urban District Council. Mr. H. Richardson, Surveyor to the Council:—

G. Webb	£107 5 0	Hulbert & Ladbury	£90 3 10
T. Elvins	99 10 0	Lee & Sons	86 13 8
Walton Bros.	98 0 0	G. E. Jackson, Oldbury*	78 0 0
J. Dodd, jun.	97 19 0		
F. Nicholls	93 9 6		

HARTLEY WINTNEY.—For 2,800 yds. of 6-in. cast-iron main, etc., for the Rural District Council. Messrs. Belshaw & Co., engineers, 53, Victoria-street, London, S.W.:—

Britannia Engineering Co.	£2,996 5 0	A. Wooldridge	£1,525 17 10
D. Young	1,754 10 0	Jenkins & Son	1,502 16 7
Hewett & Sons, Ltd.	1,699 4 0	T. Turner	1,393 17 5
Pool & Sons	1,663 3 0	A. Streeter & Co., Godalming†	1,368 6 3
W. L. Meredith	1,572 17 6	E. J. Ell‡	1,340 12 0

‡ Too late.

HENFIELD.—For water supply works, for the Steyning West Rural District Council. Mr. F. Slaughter, Engineer, High-street, Steyning:—
F. J. Collingwood & Co., 43, Cambridge-gardens, W.* £272
[Eleven tenders received.]

KING'S HEATH.—For overhead electrical equipment for 1¼ miles, Moseley and King's Heath District, for the King's Norton and Northfield Urban District Council. Mr. A. W. Cross, Engineer and Surveyor, 23, Valentine-road, King's Heath:—

	Permanent Way.		Overhead Equipment.	
H. J. MacCormick	£40,031 13 10	....	£6,492	8 7
J. White, Jun.	34,281 5 1	....	—	
Dick, Kerr, & Co., Ltd.	33,080 4 2	....	4,695	4 0
British Electrical Equipment Co., Ltd.	32,883 16 11	....	4,158	11 10
J. Aird & Sons, Ltd.	32,265 7 4	....	—	
Brush Electrical Engineering Co., Ltd.*	31,978 7 2½	....	*4,115	5 6
W. Griffiths & Co., Ltd.	31,290 0 9	....	—	
G. Freeman & Sons	30,936 1 1	....	—	
G. Law	30,667 0 0	....	4,441	3 6
G. Trentham	30,428 7 9	....	—	
W. Dobson	30,281 13 8	....	—	
G. Holloway	29,539 18 4	....	4,819	3 9
W. Underwood & Bros., Dukinfield*	29,462 0 10*	....	—	

LONDON BOARD of EDUCATION TENDERS.

FOR PAINTING THE EXTERIOR OF CERTAIN LONDON COUNTY COUNCIL SCHOOLS.

Chelsea, Walton-street.

W. King & Son	£214	Lole & Co.	£153
G. Foxley	192	J. R. Sims, 58 and 60, Horseferry-road, Westminster*	121
R. S. Ronald	180		
J. C. Richards & Co.	158		

[Estimate of architect (Education), £90.]

Hammersmith, Hammersmith School of Art.

Bristow & Eatwell	£40 10	C. Johnson	37
J. C. Richards & Co.	39 10	Dalling-road, Hammersmith*	£27 0
S. N. Soole & Son	37 0		

[Estimate of architect (Education), £45.]

Islington, W., Blundell-street.

W. Reason	£399 0	Stevens & Sons	£238 10
G. S. S. Williams & Son	367 0	F. W. Harris & Co., Ltd., Albion Works, Barnsbury*	230 0
McCormick & Sons	315 0		
G. Kirby	269 0		

[Estimate of architect (Education), £200.]

Islington, W., Westbourne-road.

G. S. S. Williams & Sons	£180	F. W. Harris & Co., Ltd.	£137
W. Chappell	158	Stevens & Sons, Yonge-park*	136
J. Grover & Son	149		

[Estimate of architect (Education), £116.]

Poplar, Upper North-street.

Newell & Lusty	£149 0	Vigor & Co.	£129 0
J. Haydon & Sons	146 0	Unsigned	119 0
A. W. Derby	146 0	R. Woollaston & Co., 40, Turners-road, Limehouse*	118 0
A. E. Symes	145 0		
Press Robinson & Co.	131 10		

[Estimate of architect (Education), £190.]

Poplar, Janet-street School for Mentally Defective Children.

	Original Specification.		Amended Specification.	
Griggs & Son	£4,172 13 3	....	£4,102	0 3
G. Parker	4,123 4 2	....	3,831	14 4
Staines & Son	4,040 0 0	....	3,775	10 0
R. Elvy & Son	3,941 0 0	....	3,679	4 0
W. J. Clemens	3,714 4 8	....	3,613	5 10
F. & T. Thorne	3,640 0 0	....	3,447	6 6
J. & M. Patrick	3,529 0 0	....	3,307	0 0
W. H. Hyde	3,416 0 0	....	3,292	14 0
Martin, Wells, & Co., Ltd.	3,408 0 0	....	3,266	11 9
J. & C. Bowyer, Westow-street, Upper Norwood	3,299 0 0	....	*3,118	10 11

[The architect's (Education) estimate comparable with the Tenders for the work comprised in the original specification is £3,302.]

Kensington, S., Gloucester-grove East (Redivision of Rooms).

W. Martin	£1,300 0	General Builders, Ltd.	£747 0
C. Johnson	893 10	J. C. Richards & Co.	710 0
E. Spencer & Co.	791 0	W. Johnson & Co., Ltd.	709 0
G. Godson & Sons	790 0	J. Christie, 2, Richmond-rd.*	622 0
Lathey Bros.	770 0		
Lole & Co.	770 0		

[The estimate of the architect (Education) comparable with these Tenders is £690.]

Marylebone, W., Copland-street (Heating).

G. Davis	£212 0 0	J. & F. May	£153 19 0
Stevens & Sons	158 0 0	J. C. Christie	137 18 6
J. Wontner-Smith, Gray, & Co.	154 18 0	J. Jeffreys & Co.	137 0 0
Paragon Heating Co.	154 10 0	J. Yetton & Co., 4, Carr-street, Limehouse	121 3 0

[Estimate of architect (Education) comparable with these Tenders is £142.]

Wandsworth, Franciscan-road (Erection of Iron Buildings).

J. McManus	£1,860	T. J. Hawkins & Co., 109, Victoria-street, Westminster*	£1,447
A. Leather	1,584		
W. Bain & Co.	1,550		
W. Harbrow	1,479		

Peckham, Colls-road (Redivision of Rooms, etc.).

J. F. Ford	£559	Holliday & Greenwood, Ltd.	£485
J. Marsland & Sons	555	J. & C. Bowyer	429
W. V. Goad	535	Galbraith Bros.	425
E. Triggs	525	E. B. Tucker	421
W. H. Lascelles & Co., Ltd.	518	H. Line, 81, Peckham-rye*	410
T. G. Sharpington	488		

[The estimate of the architect (Education) comparable with these Tenders is £400.]

Woolwich, The "Slade" (Redivision of Rooms).

General Builders, Ltd.	£620	H. Groves, Stockwell-street, Greenwich*	£588
E. P. Bulled & Co.	610		
E. Spencer & Co.	610	H. Kent	586

[The estimate of the architect (Education) comparable with these Tenders is £584.]

LONDON.—For laying 3,000 yd's. of water-main from Plumstead Common to Woolwich Common Reservoir, for Metropolitan Water Board:—

W. Griffiths & Co., Ltd.	£1,575 0	W. Dobson	£1,087 10
Kirk & Randall	1,387 10	Davies, Ball, & Co.	975 0
E. & E. Iles	1,250 0	G. J. Anderson	950 0
J. Mowlem & Co.	1,237 10	T. C. Starkey	937 10
T. Docwra & Sons	1,162 10	T. Egan & Sons, Manningham, York*	825 0
J. Aird & Son	1,100 0		
A. E. Nunn	1,100 0		

LONDON.—For alterations in connexion with two wards at the South-Western Fever Hospital, Landor-road, Stockwell, for the Metropolitan Asylums Board. Messrs. T. W. Aldwinckle & Son, architects, 20, Denman-street, London Bridge, S.E.:—

W. Johnson & Co., Ltd.	£2,010 0 0	B. E. Nightingale	£1,723 0 0
Johnson & Co.	1,906 0 0	T. Gale	1,720 11 3
W. J. Coleman & Co.	1 848 13 4	H. Bragg & Sons, Ltd.	1,707 9 4
W. H. Hyde	1,820 0 0	C. Wall, Ltd.	1,707 0 0
F. & H F. Higgs	1,810 0 0	W. Lawrence & Son	1,674 10 0
J. Barker & Co., Ltd.	1,707 10 0	E. Streather	1,575 2 2
W. Reason	1,790 0 0	T. J. Hawkins & Co., 109, Victoria-st., S.W.*	1,562 3 0
Martin, Wells, & Co., Ltd.	1,769 0 0		

LONDON.—For making up and paving Flanchford-road, for the Borough Council:—

J. & W. Drake		£828 0
F. Fowles		795 0
H. J. Greenham		789 0
J. Mowlem & Co., Ltd.		775 0
E. Rogers & Co.	Imperial stone	785 0
	Indurated stone	760 0
J. Mears		738 0
G. Wimpey & Co., The Grove*		700 0
J. Sheehan‡		549 10

‡ Withdrawn.

MONKWEARMOUTH.—For erecting mortuary and post-mortem room, for Monkwearmouth and Southwick Hospital. Mr. H. W. Filkin, secretary to the hospital:—

M. Purvis & Son	£215 18	J. Ebrick	£162 0
J. G. Downey	176 0	O. Lavin	159 10
Clerey & Charlton	170 15	J. Huntley	152 10
J. M. Wright	170 0	T. Scrafton, 14, Monk-street*	140 15
W. Spraggon	169 0		

NORTH MOLTON (North Devon).—For erecting an annexe at "Court Hall," for Col. F. D. Raikes, C.I.E., comprising a cloakroom, lavatory, water-closet, and bath-room. Mr. F. F. J. Sanders, architect and surveyor, South Molton:—

Contract A.

J. Comins	£132 1 0	Sanders & Sons	£119 0 0
E. Karslake, Barnstaple*	128 10 0		

NORTH MOLTON (North Devon).—For the installation of a hot-water system at "Court Hall," including the fitting-up of the annexe, for Col. F. D. Raikes, C.I.E., Mr. F. F. J. Sanders, architect and surveyor, South Molton:—

Contract B.

Garton & King	£136 8 6	H. R. Williams & Co., Barnstaple*	£81 10 0
J. Comins	124 2 0	W. Hunt & Son	79 15 0

NOTTINGHAM.—For alterations at Bagthorpe Workhouse, for the Guardians, Nottingham. Mr. Arthur Marshall, A.R.I.B.A., King-street, Nottingham:—

J. G. Short G. Evans E. L. Hanford T. Cuthbert F. M. Thompson & Sons	Varying from £295 to £411 16
W. J. Hutchinson, Bulwell-lane, Nottingham*	£295

PORTLAND.—For erecting Wesleyan Methodist Church, Easton-square. Messrs. La Trobe & Weston, architects, 44, Corn-street, Bristol:—

C. Trask & Sons	£7,198	C. A. Hayes	£5,833
Jesty & Baker	6,135	A. J. Colborne	5,318
R. Wilkins & Sons	6,095	Wakeham Bros., Plymouth*	5,294
R. Lynham	6,035		
Wallis, Ltd.	6,004		

* Reduced to £5,097 and accepted.

SOUTHAMPTON.—For reconstruction of "The Stewards Arms" public house, Marsh-lane, Southampton. Mr. A. A. Burnett, F.S.I., architect, 2, High-street, Southampton:—

Exors. of the late W. Franklin	£2,070	A. Wright & Son	£1,798
H. Stevens & Co.	1,968	Jenkins & Sons, Ltd.	1,785
Golding & Ansell	1,940	Dyer & Sons	1,778
A. Doggrell & Son	1,850	H. Cawte*	1,750

[All of Southampton.]

SOUTHAMPTON.—For reconstruction of a portion of Town Quay:—

Fasey & Son	£11,451	H. Stevens & Co.	£9,450
Campbell & Handman	11,433	D. G. Somerville & Co., London*	8,900
W. Hill & Co.	10,872	F. Osman, Southampton‡	7,300
W. Cubitt & Co.	9,513		

‡ Withdrawn.

WARWICK.—For supplementary water supply (Contract No. 4) and for erection of an engine-house, for the Corporation. Messrs. Willcox & Raikes, engineers, 63, Temple-row, Birmingham:—

E. Tallis, Warwick* £5,797

WELLINGTON (Salop).—For erecting a Sunday-school, for the Primitive Methodist Trustees. Mr. Elijah Jones, architect, 10, Albion-street, Hanley. Quantities by architect:—

	Building.	Plastering.
T. Challoner	£2,026 18 9	£99 7 4
T. Godwin	1,641 0 0	65 16 0
J. C. Holder	1,590 0 0	86 12 0
G. L. Jones	1,578 0 0	74 0 0
A. Pearce	1,569 0 0	57 10 0
J. Carver	1,559 0 0	56 0 0
A. Roper	1,478 0 0	55 0 0
W. Shelborne	1,448 0 0	43 5 10
J. Blakemore & Son	1,389 0 0	56 14 6
J. Bright	1,373 0 0	54 17 0
A. Holmes, Wellington	*1,355 0 0	*50 0 0

WHITEHAVEN.—For 600 yds. of 9-in. pipe sewers at Howgate, Moresby, for Whitehaven Rural District Council. Mr. G. Boyd, C.E., Surveyor, 33, Queen-street, Whitehaven:—

J. Dawson, Whitehaven* ..... £339.

WOLVERTON.—For the erection of "The Cranford Arms," for the People's Refreshment House Association, Ltd., Westminster. Mr. Chas. V. Cable, architect, Hartley Wintney, Hants:—

H. Freeman	£5,859	A. P. Hawtin, Northampton*	£3,889
Barrett & Power	5,058	E. Archer‡	3,477
Henson & Son	4,476		
E. Lawrence & Son	4,250		

‡ Withdrawn.

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